



US Army Corps
of Engineers

FILE COPY

REPAIR, EVALUATION, MAINTENANCE, AND
REHABILITATION RESEARCH PROGRAM

2

TECHNICAL REPORT REMR-EI-3

COMPLIANCE REQUIREMENTS FOR ENVIRONMENTAL LAWS APPLICABLE TO REMR ACTIVITIES

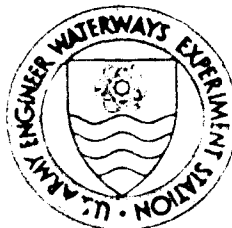
by

Jim E. Henderson, Linda D. Peyman-Dove

Environmental Laboratory

DEPARTMENT OF THE ARMY

Waterways Experiment Station, Corps of Engineers
PO Box 631, Vicksburg, Mississippi 39181-0631



August 1988

Final Report

Approved For Public Release; Distribution Unlimited

DTIC
ELECTE
OCT 11 1988
S D



Prepared for DEPARTMENT OF THE ARMY
US Army Corps of Engineers
Washington, DC 20314-1000

Under Civil Works Research Work Unit 32339

88 10 1 108

The following two letters used as part of the number designating technical reports of research published under the Repair, Evaluation, Maintenance, and Rehabilitation (REM/R) Research Program identify the problem area under which the report was prepared.

Problem Area		Problem Area	
CS	Concrete and Steel Structures	EM	Electrical and Mechanical
GT	Geotechnical	EI	Environmental Impacts
HY	Hydraulics	OM	Operations Management
CO	Coastal		

Destroy this report when no longer needed. Do not return
it to the originator.

The findings in this report are not to be construed as an official
Department of the Army position unless so designated
by other authorized documents.

The contents of this report are not to be used for
advertising, publication, or promotional purposes.
Citation of trade names does not constitute an
official endorsement or approval of the use of such
commercial products.

COVER PHOTOS:

TOP - Excavation for construction of powerhouse.

BOTTOM - Repair of lock gate, upper Mississippi River.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE				Form Approved OMB No 0704-0188 Exp Date Jun 30 1986	
1a REPORT SECURITY CLASSIFICATION Unclassified			1b RESTRICTIVE MARKINGS		
2a SECURITY CLASSIFICATION AUTHORITY			3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited		
2b DECLASSIFICATION/DOWNGRADING SCHEDULE					
4 PERFORMING ORGANIZATION REPORT NUMBER(S) Technical Report REMR-EI-3			5 MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION USAEWES Environmental Laboratory		6b OFFICE SYMBOL (If applicable)	7a NAME OF MONITORING ORGANIZATION		
6c ADDRESS (City, State, and ZIP Code) PO Box 631 Vicksburg, MS 39180-0631			7b ADDRESS (City, State, and ZIP Code)		
8a NAME OF FUNDING/SPONSORING ORGANIZATION US Army Corps of Engineers		8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c ADDRESS (City, State, and ZIP Code) Washington, DC 20314-1000			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO	PROJECT NO	TASK NO
					WORK UNIT ACCESSION NO 32339
11 TITLE (Include Security Classification) Compliance Requirements for Environmental Laws Applicable to REMR Activities					
12 PERSONAL AUTHOR(S) Henderson, Jim E.; Peyman-Dove, Linda D.					
13a TYPE OF REPORT Final report		13b TIME COVERED FROM _____ TO _____		14 DATE OF REPORT (Year, Month, Day) August 1988	
				15 PAGE COUNT 89	
16 SUPPLEMENTARY NOTATION See reverse					
17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	Environmental compliance, Executive orders		
			Environmental laws, Operation and maintenance		
			Environmental statutes, REMR water pollution. (EAS)		
19 ABSTRACT (Continue on reverse if necessary and identify by block number) Operation and maintenance (O&M) activities of the Corps of Engineers must comply with the environmental laws and regulations just as other Corps activities and private actions. The O&M procedures developed under the Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Research Program might result in water pollution, use or disposal of hazardous or toxic materials, or other actions that are regulated by environmental laws. A previous review of environmental laws for applicability to REMR activities identified 14 laws, regulations, or executive orders that may require compliance actions (Technical Report REMR-EI-1). Compliance actions required under the environmental laws are summarized. Information is provided on (a) intent of the law; (b) scope of the law, i.e., what REMR activities are covered by the law and possible exemptions or exclusions; (c) compliance documentation required, that is, the data, analyses, or other documentation required; and (d) sources of assistance/advice.					
20 DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS			21 ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a NAME OF RESPONSIBLE INDIVIDUAL			22b TELEPHONE (include Area Code)		22c OFFICE SYMBOL

DD FORM 1473, 84 MAR

83 APR edition may be used until exhausted
All other editions are obsoleteSECURITY CLASSIFICATION OF THIS PAGE
Unclassified

16. SUPPLEMENTARY NOTATION (Continued).

A report of the Environmental Impacts problem area of the Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Program. Available from National Technical Information Service, 5285 Port Royal Road, Springfield VA 22161.



Accession For	
NTIS CRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Date	
Priority Codes	
Distribution	
A-1	

PREFACE

The study reported herein was authorized by Headquarters, US Army Corps of Engineers (HQUSACE), under Civil Works Research Work Unit 32339, "Evaluation of Environmental Impacts for REMR," and was written in conjunction with Technical Report REMR-EI-1 entitled "Applicability of Environmental Laws to REMR Activities." The study was part of the work under the Environmental Impacts Problem Area of the Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Research Program. The Overview Committee at HQUSACE for the REMR Research Program consists of Mr. James E. Crews and Dr. Tony C. Liu. Mr. Jesse A. Pfeiffer, Jr., is the REMR Coordinator at the Directorate of Research and Development, HQUSACE. Technical Monitor for the study was Mr. Crews.

The study was conducted by Mr. Jim E. Henderson and Ms. Linda D. Peyman-Dove of the Resource Analysis Group (RAG), Environmental Resources Division (ERD), Environmental Laboratory (EL), US Army Engineer Waterways Experiment Station (WES). The preparation of this report was conducted under the direct supervision of Mr. William J. Hansen, former Chief, RAG. At the time of publication, Mr. H. Roger Hamilton was Chief, RAG. This report was prepared and published under the general supervision of Dr. Conrad J. Kirby, Chief, ERD, and Dr. John Harrison, Chief, EL. Problem Area Leader for the Environmental Impacts Problem Area is Mr. M. John Cullinane, EL. Program Manager for REMR is Mr. William F. McCleese, Concrete Technology Division, Structures Laboratory, WES. The report was edited by Ms. Lee T. Byrne of the Information Technology Laboratory, WES.

COL Dwayne G. Lee, EN, is the Commander and Director of WES.
Dr. Robert W. Whalin is Technical Director.

This report should be cited as follows:

Henderson, Jim E., and Peyman-Dove, Linda D. 1988. "Compliance Requirements for Environmental Laws Applicable to REMR Activities," Technical Report REMR-EI-3, US Army Engineer Waterways Experiment Station, Vicksburg, MS.

CONTENTS

	<u>Page</u>
PREFACE	1
PART I: INTRODUCTION	3
Background	3
Purpose	3
Scope and Method	4
Use of This Report	4
PART II: COMPLIANCE REQUIREMENTS	7
National Environmental Policy Act	7
Clean Water Act	12
Effluent Discharge	12
Disposal of Dredged Material	14
Clean Air Act	17
Resource Conservation and Recovery Act	18
Fish and Wildlife Coordination Act	23
Endangered Species Act	24
National Historic Preservation Act	30
Reservoir Salvage Act/Archeological and Historic Preservation Act	32
Marine Protection, Research, and Sanctuaries Act	34
Coastal Zone Management Act and Estuary Protection Act	36
Marine Mammal Protection Act	38
Federal Insecticide, Fungicide, and Rodenticide Act	40
Wild and Scenic Rivers Act	41
Protection of Wetlands, Executive Order 11990	42
Floodplain Management, Executive Order 11988	43
PART III: CONCLUSIONS	44
REFERENCES	45
TABLES 1-6	
APPENDIX A: REGIONAL ENVIRONMENTAL PROTECTION AGENCY OFFICES	A1
APPENDIX B: NOTATION	B1

COMPLIANCE REQUIREMENTS FOR ENVIRONMENTAL
LAWS APPLICABLE TO REMR ACTIVITIES

PART I: INTRODUCTION

Background

1. The Federal commitment to protect and enhance the human and natural environment is implemented through compliance with numerous legal requirements. While the environmental laws may require certain additional actions by the US Army Corps of Engineers (CE*), the laws also provide a mechanism for addressing environmental concerns of the public, for protecting important environmental resources, and for promoting effective natural resource management. Compliance actions by the Corps include environmental documentation, permits, and consultative actions intended to meet pollutant or other environmental standards and provide for rational and reasoned decisions for CE actions that affect environmental resources.

2. The Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Research Program was initiated to provide CE personnel with state-of-the-art procedures and products for the repair and maintenance of CE Civil Works projects. The applicability of environmental laws to REMR activities was examined in Henderson and Peyman (1986). This report provides information on compliance activities for these environmental laws.

Purpose

3. The purpose of this report is to describe generally the types of actions that may be used to comply with the intent and procedural requirements of environmental laws that are applicable to REMR activities. The intent is to provide information on coordination, permits, and documentation efforts for compliance with the environmental laws. The report is intended for general

* For convenience, symbols and abbreviations are listed in the Notation (Appendix B).

information to those in Construction-Operations and Engineering elements responsible for management of REMR programs.

Scope and Method

4. Henderson and Peyman (1986) classified the environmental laws into three categories: compliance statutes, statutes applicable in certain cases, and secondary environmental laws. This report addresses the compliance statutes and statutes applicable in certain cases. Information on the applicable laws includes:

- a. Intent of the law--the purpose or compliance activities mandated by the law.
- b. Scope of the law--the REMR activities covered by the requirements and possible exemptions or exclusions for REMR activities.
- c. Compliance-documentation requirements--the data, analyses, or other documentation required.
- d. Sources of assistance/advice--the Corps or other agency elements that provide expertise or assistance for compliance.

The compliance requirements vary widely in magnitude of effort and resources required. Many environmental laws were intended for regulation of Planning or larger Operation and Maintenance (O&M) functions, and applicability to REMR-type activities is not the primary intent or emphasis of the law. States are responsible for the implementation and enforcement of many environmental laws. Because state requirements and agency structures vary widely, differing levels of detail are provided in the compliance information.

Use of This Report

5. This report describes the types of compliance activities mandated by the environmental laws and requirements applicable to REMR activities. Henderson and Peyman (1986) provide information useful in the identification of laws that may affect a particular REMR activity. Figure 1 provides a framework of project settings and types of environmental impacts for considering possible compliance activities.

6. In complying with environmental laws, the appropriate Engineer Regulations should be consulted. Environmental resources personnel in Planning and Operations have experience with compliance activities for the

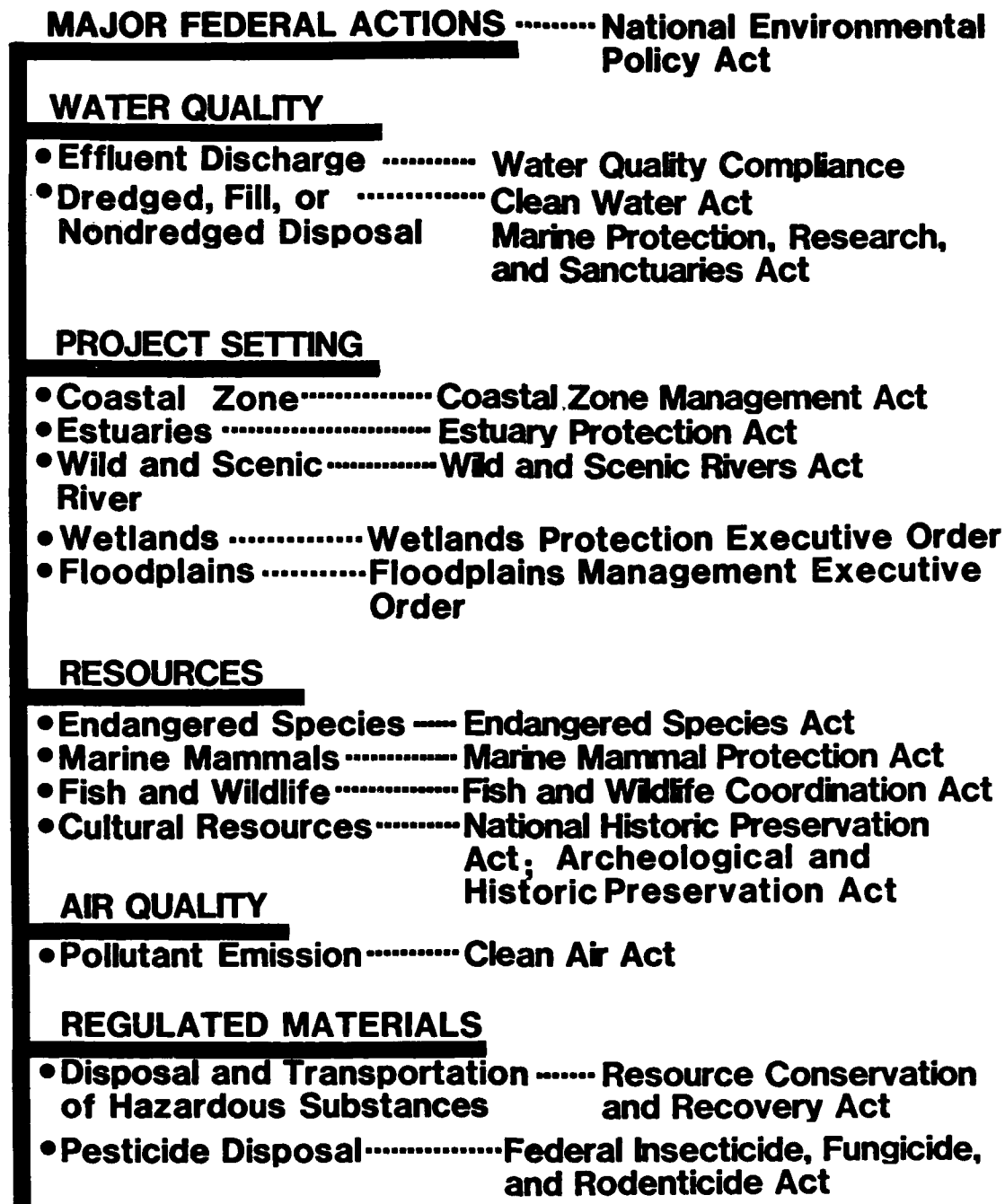


Figure 1. Framework for consideration of REMR impacts

environmental laws. Additionally, basic information on the laws is available on the Computer Assisted Environmental Legislative Data System (CELDS) developed by the Construction Engineering Research Laboratory (CERL) (Van Weringh et al. 1978).*

* Information on CELDS is contained in Technical Report N-56 from CERL (Van Weringh et al. 1978). Assistance with use of CELDS is available from the Environmental Information Connection (supported by the US Army Corps of Engineers) at (217) 333-1369.

PART II: COMPLIANCE REQUIREMENTS

National Environmental Policy Act

7. The National Environmental Policy Act (NEPA) is the national umbrella legislative mandate for protection of the environment. NEPA establishes policy, sets goals, and provides means for carrying out the policy to ensure consideration of environmental factors in Federal actions and to provide for public disclosure of proposed actions. Section 102(2) contains action-forcing provisions to ensure that Federal agencies act according to the letter and spirit of the Act. The most significant of these directives is the requirement for the preparation of an Environmental Impact Statement (EIS) for major Federal actions significantly affecting the quality of the human environment. Regulations implementing the procedural provisions of NEPA (40 Code of Federal Regulations (CFR) Parts 1500-1508) were promulgated by the Council on Environmental Quality (CEQ) on 29 November 1978. All Federal agencies were required to develop their own procedures to supplement CEQ's regulations. Engineer Regulation (ER) 200-2-2 was approved by CEQ and published in the CFR (33 CFR 230) on 25 August 1980 and amended 2 March 1981. The NEPA process involves a systematic, interdisciplinary approach to integrate the natural and social sciences in planning and decisionmaking. Because of its broad scope, i.e., all Federal actions, and the legal interpretations of the Act, compliance with the intent of the NEPA requirements process is critical and must be considered early enough to prevent delays in the project. Compliance procedures for NEPA have evolved to minimize delays and unnecessary or duplicatory efforts. Questions on interpretation of NEPA requirements should be referred to knowledgeable Planning or Operations personnel or to the District Office of Counsel.

Intent of the law

8. The intent of NEPA is for environmental values to be considered and balanced with economic and technical factors in agency actions. This consideration of environmental factors takes place within the context of an Environmental Assessment (EA) or EIS and presents the environmental impacts of the proposed action and reasonable alternatives in comparative form to define the issues and provide a basis for choice among options by the decisionmaker.

Scope of the law

9. Compliance requirements for REMR activities are dependent on the nature of the activity, existence of an EA or EIS covering the activity, and the significance and magnitude of the environmental impacts caused by the activity (Office, Chief of Engineers (OCE) 1981). The size and type projects for which EAs or EISs are normally prepared may vary slightly among Districts because of differences in project purposes and other characteristics. The policy and procedures for implementing NEPA set forth in ER 200-2-2 have evolved in most Districts to the point that NEPA questions, e.g., whether an EIS is required, are handled in a fairly routine manner. The proposed revision of ER 200-2-2 (draft*) contains a set of categorical exclusions for various O&M projects. The categorical exclusions are those actions that are excluded from requirement for EA and EIS preparation because, when considered individually and cumulatively, they do not have significant effects on the quality of the human environment. Examples of O&M categorical exclusions include:

- a. Activities at completed Corps projects that carry out the authorized project purposes, e.g., routine operations and maintenance actions; repair, rehabilitation, replacement of existing structures and facilities; installation of new buildings, utilities, or roadways in developed areas; and erosion control.
- b. Minor maintenance dredging using existing disposal sites.
- c. Disposal of existing buildings and improvements for offsite removal.
- d. Real estate grants for archeological and historical investigations necessary to comply with the National Historic Preservation Act.
- e. Real estate grants for rights-of-way involving minor disturbances to earth, air, or water, e.g., minor access roads, boat ramps, and removal of sand, gravel, rock, and other material from existing borrow areas.

It should be emphasized that actions which are categorically excluded from NEPA compliance must still be in compliance with the Clean Water Act, the Endangered Species Act, and other environmental laws and regulations.

* The draft of ER 200-2-2 containing these categorical exclusions has not been finalized. There may be additions or deletions of specific activities in the final ER.

10. The EIS or EA documents prepared for O&M activities may include the proposed REMR activity, or the REMR activity and its environmental impacts may be discussed in a Program EIS in terms of long-term O&M activities without specifically mentioning the REMR activity. If an EIS exists for the project and discusses the proposed O&M or REMR activities, no further compliance action is required. A Supplement to the EA or EIS could be required if REMR activities or their impacts deviate substantially from the existing NEPA documentation, or if the impacts of the REMR activities have not been covered.

11. Many O&M actions and REMR activities result in environmental impacts that are short* to medium term in duration and of medium scale in magnitude and extent. These actions, with impacts less than significant, require preparation of an EA, rather than an EIS. A benefit of EA preparation for these projects is the identification of operation or construction measures that can serve to mitigate, minimize, or avoid adverse environmental impacts. The EA documentation, although brief, can be used to clearly identify important environmental resources to those responsible for managing REMR activities. The significance of environmental impacts identified in the EA is the basis for determining whether an EIS or a Finding of No Significant Impact (FONSI) is prepared. An EIS is prepared when significant environmental effects are expected (Henderson and Peyman 1986). A FONSI is prepared when the proposed activity will not have significant impacts.

Compliance data requirements

12. The data required for the NEPA process are intended to provide the decisionmaker a basis for identifying an environmentally preferable alternative. The environmental effects caused by REMR activities are balanced with economic and other technical factors and the CE mission requirements. The data required for NEPA-related assessment and technical evaluation range from lists of sites on the National Register of Historic Sites to terrestrial or aquatic habitat descriptions and toxicological analyses. The implementation of the NEPA process has resulted in establishment of numerous environmental data bases and the development of accepted environmental analysis methodologies. The data requirements obviously can vary widely, depending on the

* Use of terms such as "short" and "medium" in regard to impacts are judgmental. Environmental resources personnel can provide guidance on such evaluations and judgments.

environmental resources that are affected by a project. The time, costs, and resources required for data collection and analysis can become excessive. Therefore, professional judgment is required to ensure that available resources are used to identify the important environmental resources and assess the impacts related to a project.

13. CEQ regulations implementing NEPA require agencies to integrate the requirements of NEPA with other environmental review procedures required by law or by agency practice so that all such procedures run concurrently, rather than consecutively, to the fullest extent possible. Examples of environmental laws that should be concurrently reviewed are listed below. Other laws may be required as appropriate.

- a. Clean Air Act.
- b. Clean Water Act.
- c. Coastal Zone Management Act.
- d. Land and Water Conservation Fund Act.
- e. Estuary Protection Act.
- f. River and Harbor Act.
- g. Watershed Protection and Flood Prevention Act.
- h. Wild and Scenic Rivers Act.
- i. Federal Water Project Recreation Act.
- j. Endangered Species Act.
- k. Fish and Wildlife Coordination Act.
- l. Marine Protection, Research, and Sanctuaries Act.
- m. National Historic Preservation Act.
- n. Reservoir Salvage Act.

14. Environmental Assessment. The EA is intended to be a concise document that determines the need for an EIS (OCE 1981, Par. 9). Preparation of an EA requires that the proposed activity be described in enough detail to determine potential impacts. The EA should include the following:

- a. Need for the proposed activity.
- b. Environmental impacts.
- c. Alternatives to the proposed activity.
- d. Agencies, interest groups, and the public consulted.

The EA should include necessary supporting technical appendixes or technical data. The analysis should be concise and support a meaningful review and decision.

15. The EA analysis is intended to determine whether the proposed activity will have any significant impacts on the environment, i.e., whether a FONSI or an EIS is the result of the EA. Based on an assessment of the environmental impacts identified in the EA, a decision on the significance of the impacts is obtained. Decisions and judgments on the significance of resources and impacts rely on technical, institutional, and public factors (18 CFR 714). Although the EA is brief, it should be clear enough to provide for sound judgments on the significance of resources and impacts and to decide if an EIS is needed. A Statement of Findings is (SOF) prepared to summarize the findings, conclusions, and decisions reached by the EA analysis.

16. FONSI. Preparation of a FONSI as the result of an EA explains why the activity will not have a significant impact on the environment (OCE 1981, Par. 10). The unsigned FONSI is circulated for comment with the EA for review. Responses to the comments are prepared and become part of the administrative record for the activity.

17. Environmental Impact Statement. The EIS is a factually oriented document that evaluates the environmental impacts of a project. REMR EISs would be prepared for large-scale rehabilitation and repair activities that cause significant impacts to fish and wildlife habitat, air quality, water quality, and other environmental resources. Rehabilitation and repair for a single facility may require an EA and then an EIS. The nature of many REMR and O&M activities, i.e., long-term repetitive and/or routine activities, makes possible the use of tiering and programmatic EISs (OCE 1981, Par. 11c). A programmatic EIS addresses the impacts caused by an activity in general and is followed by site-specific EISs or EIS supplements that address specific projects or significant decisionmaking issues at each level or stage. The initial program EIS presents the generic impacts of the proposed activity in order to make decisions required at the present stage of planning or development and excludes issues already decided or not ready for decision, e.g., future sitings. As site-specific projects are planned, as data are available, or as the level or phase of implementation progresses, site-specific EIS or EIS supplements are prepared to address the relevant environmental issues. Often, an EA or FONSI is the appropriate site-specific documentation subsequent to a programmatic EIS.

18. Preparation of an EIS is more structured than the EA process (40 CFR 1502). A scoping process is used to identify the important environmental resources, public concerns, and potential impacts so that the EIS is focused on significant issues. A Notice of Intent to prepare an EIS or Supplement is prepared and published in the Federal Register announcing the initiation of the scoping process (OCE 1979, ER 200-2-1). The technical parts of the EIS include:

- a. Purpose and need for the project.
- b. Alternatives considered.
- c. Affected environment.
- d. Environmental consequences.
- e. Public involvement.

Appendix A of ER 200-2-2 outlines the format of an EIS, and Appendix B contains the format for an EIS for regulatory activities. The substantive parts of the EIS are supported by the necessary technical data and are normally included in appendixes. The preparation of EISs has evolved through agency policy and judicial review so that the substantive parts include clearly defined topics.

19. After the draft EIS is prepared, five copies are filed with the US Environmental Protection Agency (EPA), and copies are circulated for review and comment to other Federal and State agencies, interested members of the public, and those on the project mailing list. The EIS is circulated for a minimum of 45 days calculated from the date of the notice of availability published in the Federal Register (OCE 1981, Par. 17c). At the discretion of the District, a public meeting may be held in connection with an EIS. The draft EIS must be available 15 days ahead of the meeting (OCE 1981, Par. 19b). Comments to the draft EIS are addressed in the final EIS or final EIS Supplement (OCE 1981, App. C, Par. 5). The final EIS is sent to OCE and to the Division for review. After review, the Division Engineer, or in some cases OCE, will file the final EIS with EPA for the required 30-day review. The District circulates the document to other Federal and State agencies and interested members of the public. After the review period, a Record of Decision (ROD) (OCE 1981, Par. 12) is signed by the appropriate Corps official approving the action. The ROD includes a statement of the decision, identification of the environmentally preferable alternative or alternatives, discussion of the economic and technical considerations, and discussion of whether

all practicable means are used to avoid or minimize environmental impacts (OCE 1981, Par. 12). The ROD is signed and sent to both the Regional Administrator and Washington offices of the EPA.*

20. After the final EIS is on file, supplements may be required if changes in the proposed project cause new significant impacts or if circumstances change relevant to environmental considerations (OCE 1981, Par. 11b). Supplements are circulated as draft and final documents, the same as the original documents.

Sources of advice/assistance

21. Environmental personnel in Operations or Planning can provide assistance in NEPA-related matters, e.g., judgments on significance of impacts. The District's experience and previous decisions on the preparation of an EA or EIS provide guidance on the level of effort likely for a REMR activity.

Clean Water Act

22. The basic charter of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Compliance requirements for REMR activities involving these discharges are discussed separately.

Effluent discharge

23. Intent of the law. Discharges by point and nonpoint pollution sources are regulated by States. REMR activities resulting in point-source discharges of wastewater or sewage must comply with applicable water quality standards. Certification of water quality compliance for these activities must be obtained from the State water quality agency. The State water quality agencies are listed in Table 1.** A uniform system for regulation of nonpoint source pollution, e.g., forest or agricultural runoff, has not been implemented, and the extent of State regulation varies.

24. Scope of the law. Establishing water quality standards is the responsibility of State water quality offices (Table 1). The State agencies

* EPA Regional Offices are listed in Appendix A.

** Reorganization and restructuring of State agencies and their responsibilities are frequent occurrences. Water quality enforcement may be transferred from the listed agencies.

establish and enforce standards for specific water quality parameters. The parameters for which standards are established vary among states. Most discharges to a stream are covered by water quality standards. Exemptions, exceptions, and special compliance requirements may be set up by each State's water quality agency. The parameters regulated by a State and applicable standards for a particular stream are available from District personnel, the State regulatory agency, or from the CELDS system (Van Weringh et al. 1978).

25. Compliance documentation requirements. Determination of compliance with water quality standards requires predictions of the type and amount of pollutants discharged, any planned pretreatment of discharge, and hydrologic and water quality characteristics of the receiving stream. Consultation with District water quality or environmental personnel or the State water quality agencies will determine whether the discharge will result in violation of standards.

26. Sources of assistance. Environmental resources or water quality personnel within Operations, Planning, or Engineering have expertise in determining water quality standards and estimating impacts on aquatic habitats.

Disposal of dredged material

27. Disposal of dredged or fill material in waters of the United States, including wetlands and navigable waters, is regulated by Section 404 of the CWA. Disposal activities in ocean waters are also regulated under the Marine Protection, Research, and Sanctuaries Act. Maintenance dredging as well as other operation dredging should be performed in accordance with the NEPA document for that project. In addition, general authorizations are instituted for certain categories of activities on a regional, state, or nationwide basis (33 CFR 337.5). Proposed dredged material disposal activities are evaluated to determine compliance with State water quality regulations (Section 401), EPA Section 404(b)(1) guidelines, and applicable coastal zone management programs.

28. The REMR-generated disposal activities may not require specific compliance actions if the disposal action is covered by (a) the nationwide permit for anticipated normal repair and rehabilitation activities (33 CFR 330.5(3)), intended to restore or maintain a structure at the original capacity or function, (b) exemptions under Section 404(f) CWA, or (c) a general authorization.

29. Scope of the law. If a REMR-generated disposal activity is not covered by one of the above provisions, the disposal is evaluated to determine its environmental impact (33 CFR 338). The potential for significant environmental impact as a result of REMR activity is only slight due to the magnitude, short term, and limited nature of most REMR activities; therefore, the preparation of an EA or EIS is unlikely. The evaluation of disposal activities includes specifying the disposal site, following EPA Section 404(b)(1) guidelines, and evaluating fill activities. The emphasis of the EPA guidelines is to ensure that discharges are in compliance with State water quality standards and toxic effluent restrictions and that endangered species are not affected (40 CFR 230.10(b)). (An outline for a Section 404(b)(1) evaluation is included as Appendix F in ER 1105-2-50 (OCE 1982) in the Planning Guidance Notebook.) The factors used to evaluate a proposed discharge are to include the following (33 CFR 336.1(c)):

- a. Navigation and Federal standard (i.e., the importance of maintaining a navigation system and the recommended plan for maintenance).
- b. Water quality.
- c. Consistency with existing coastal zone plans.
- d. Impacts to wetlands.
- e. Endangered species.
- f. Cultural resources.
- g. Scenic and recreational values.
- h. Fish and wildlife considerations.
- i. Impacts to marine sanctuaries.

30. To initiate the evaluation process, a public notice of the proposed action is issued (33 CFR 337.1). A request for State certification of water quality compliance is initiated, and where applicable, a coastal zone consistency determination is requested from the State coastal zone agency (33 CFR 336). Certification of water quality compliance and coastal zone consistency may include certain requirements for the project, as agreed to by the Corps and State (33 CFR 336.1(b)(3)). The Section 404(b)(1) evaluation and the evaluation of fill activities (i.e., above evaluation factors) are performed while the State certification process is being undertaken.

31. After the required coordination has been completed and the necessary State certifications have been received, an SOF is prepared (33 CFR 337.6). The SOF documents the proposed action and the anticipated impacts and

summarizes the determination and conclusions based on the evaluation of impacts. In cases of an EIS, the documentation in the SOF is included as part of the ROD.

32. Ocean disposal of dredged material is subject to the requirements of Section 103(a) of the Marine Protection, Research, and Sanctuaries Act. The procedures basically follow the process outlined above, with minor changes. Application for State water quality certification is initiated, and consistency with approved coastal zone management plans is determined (33 CFR 336.2(c)). In addition to the EPA evaluation factors above, the Corps also must determine whether the "proposed disposal will unreasonably degrade or endanger human health, welfare, or amenities, the marine environment, or ecological systems." Navigation, economic, and development factors are considered along with the availability of other disposal alternatives. An EPA-designated disposal site should be used, if at all feasible (33 CFR 336.2(d)). The evaluation information concerning the proposed disposal is provided the EPA, and the Corps is notified of compliance or noncompliance (33 CFR 336.2(d)(2)). The EPA determination of compliance becomes part of the SOF (33 CFR 336.2(d)(3)). If the site designated by the Corps does not comply with EPA criteria, then the Corps must consider alternative sites in consultation with EPA (33 CFR 336.2(d)(4)). If an alternative site is unavailable, the Secretary of the Army can seek a waiver from the EPA (33 CFR 336.2(5)(iv)).

33. Compliance documentation requirements. The Section 404(b)(1) evaluation and the evaluation of fill activities require consideration of data on substrate characteristics, water circulation patterns, and aquatic ecosystem and organism factors, and information on the quantity and characteristics of the disposal material. Based on this evaluation, the water quality impacts and the overall environmental impacts can be determined.

34. Sources of assistance. If a Section 404(b)(1) evaluation is required, Planning and Operations regulatory personnel that handle Section 404 evaluations can provide advice and assistance in determining data requirements and collection procedures. The Dredging Division, Water Resources Support Center, at Fort Belvoir, VA, provides assistance with questions on the dredging and Section 404 compliance. The State water quality compliance agencies are listed in Table 1. An outline for a Section 404(b)(1) evaluation

is included as Appendix F in ER 1105-2-50 (OCE 1982) in the Planning Guidance Notebook, and the EPA Guidelines are included as Appendix C of ER 1105-2-50.

Clean Air Act

35. The Clean Air Act (CAA) established the States as the primary regulators of air quality through enforcement of air quality standards and permitting of new sources of air pollution (Henderson and Peyman 1986). Section 309 of the CAA requires that the EPA review all Federal construction and other major activities for compliance with air quality standards. The air quality impacts of Corps activities are normally minor and limited to construction activities. REMR activities could conceivably involve the emission of sufficient amounts of air pollutant to require compliance actions under the CAA. Most REMR activities will result in emission increases well within the *de minimus* levels, i.e., emission-increase levels that are not considered significant.

Intent of the law

36. All Federal actions are to comply with the State Implementation Plan (SIP) for implementing the CAA. This means that pollutant emissions do not degrade the air quality below the standards for the Air Quality Control Region in which the project is located or violate other protection provisions of the SIP.

Scope of the requirement

37. REMR activities producing air pollutants could require a Prevention of Significant Deterioration (PSD) review by the State air quality agency. Only those REMR activities producing long-term or large quantities of air pollutants or activities located in highly sensitive settings, e.g., already polluted urban areas, would be affected.

38. If new emissions are within the *de minimus* levels or are allowable increases according to the SIP, no further action is required. A PSD review is required if a new source of air pollution has the potential to produce 250 tons (226 metric tons) per year of any air pollutant (40 CFR Parts 50 and 51).

Compliance documentation requirements

39. For a PSD review, the State agency determines whether the new pollutant source and planned controls by the Corps are acceptable. An applicant must demonstrate that expected pollutant emissions will be in compliance with ambient air quality standards, new source performance standards (primarily for industrial, non-Corps activities), and hazardous emission standards (Henderson and Teaford 1985). The following information is required by State air pollution control agencies to make this determination:

- a. Design, capacity, and schedules for construction and operation of the facility.
- b. Impact predictions on visibility, soils, and vegetation.
- c. Projected emission levels of regulated air pollutants and hazardous emissions.

40. Depending on the state, other data requirements or permitting procedures may be in effect.

Sources of assistance

41. Experience with State air quality standards and information about SIP compliance are probably available from environmental resources personnel in Planning. The State air pollution control offices listed in Table 2 are responsible for implementation and enforcement of the SIP's and have the expertise required for questions on complying with the CAA.

Resource Conservation and Recovery Act

42. The materials utilized in many REMR activities, e.g., resins and epoxys, as well the procedures using them, could result in hazardous wastes or production of substances regulated under the Resource Conservation and Recovery Act (RCRA). Regulation of generation, transportation, and disposal of hazardous wastes is a relatively new area for government involvement, and policies and procedures continue to evolve. Responsibility for implementation and enforcement of RCRA provisions has moved from a Federal responsibility to the responsibility of State waste management and pollution control agencies. Table 3 lists the State agencies responsible for RCRA implementation. Some states are responsible for notification and recordkeeping, while Regional EPA offices maintain that responsibility for other states. Because of the complexity of the regulations and the identification of hazardous substances,

assistance from knowledgeable District personnel, State agency personnel, or the EPA is highly recommended.

Intent of the law

43. RCRA was intended to provide for "cradle-to-grave" regulation of hazardous wastes. This involves complying with the operation and treatment requirements of the regulations as well as the recordkeeping and EPA notification requirements.

Scope of the law

44. REMR activities that produce hazardous wastes will require compliance with RCRA. For contracted activities, contract provisions can require contractors to be responsible for compliance with hazardous waste regulations. Applicability of RCRA is primarily dependent on the amount of hazardous wastes produced. Generators of between 100 and 1,000 kg/month of hazardous wastes will be governed by the same regulations as generators (40 CFR 261.11).

45. In considering RCRA, determining whether a regulated substance is involved may be problematic. EPA has listed hazardous wastes (40 CFR 261) and characteristics of hazardous substances, i.e., ignitability, reactivity, corrosivity, and toxicity (Subpart C 40 CFR 261.20-.24). Manufacturers and suppliers should be able to supply information on characteristics of their materials to assist in this determination. Generation of an identified hazardous substance in excess of exempted quantities requires notification of the responsible State agency or Regional EPA office, utilizing EPA Form 8700-12 (Figure 2).

46. Disposal of hazardous wastes is normally by incineration or containment, e.g., storage tanks or landfills. Depending on project management capabilities and the materials involved, offsite disposal may occur. Transportation of hazardous wastes requires filing a Transportation Manifest. Siting, operation, and monitoring of hazardous waste facilities are regulated under 40 CFR Part 264. There are considerable reporting and recordkeeping requirements for these facilities (40 CFR 264.70-.77), which may be a decision factor favoring offsite disposal.

Compliance documentation required

47. Documentation required for EPA Form 8700-12 can be determined by examination of Figure 2. The Notification includes information on the generators of the hazardous material and the characteristics of the materials,

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only.

Form Approved OMB No. 2000-0098
GSA No. 0246-EPA-OT Expiration Date 12/31/86

U.S. ENVIRONMENTAL PROTECTION AGENCY NOTIFICATION OF HAZARDOUS WASTE ACTIVITY	
<div style="text-align: center;">EPA</div> <div style="text-align: center;">U.S. ENVIRONMENTAL PROTECTION AGENCY</div>	<div style="text-align: center; padding: 20px;">PLEASE PLACE LABEL IN THIS SPACE</div>
INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, stored, stored while disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information required herein is required by law (Section 309 of the Resource Conservation and Recovery Act).	
FOR OFFICIAL USE ONLY	
CONSIGNEE <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
INSTALLATION'S EPA I.D. NUMBER <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	APPROVED <div style="border: 1px solid black; height: 20px; width: 100%;"></div>
DATE RECEIVED (M, D, Y) <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
I. NAME OF INSTALLATION <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
II. INSTALLATION MAILING ADDRESS STREET OR P.O. BOX <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
CITY OR TOWN <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
ST. ZIP CODE <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
III. LOCATION OF INSTALLATION STREET OR ROUTE NUMBER <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
CITY OR TOWN <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
ST. ZIP CODE <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
IV. INSTALLATION CONTACT NAME AND TITLE (Full, Inc., & Job Title) <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
PHONE NO. (Area code & No.) <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
V. OWNERSHIP A. NAME OF INSTALLATION'S LEGAL OWNER <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
FEDERAL <input type="checkbox"/>	NON-FEDERAL <input type="checkbox"/>
VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es)) <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> A. GENERATION <input type="checkbox"/> C. TREAT/STORE/DISPOSE </div> <div> <input type="checkbox"/> B. TRANSPORTATION (complete item VII) <input type="checkbox"/> D. UNDERGROUND INJECTION </div> </div>	
VII. MODE OF TRANSPORTATION (transporters only - enter "X" in the appropriate box(es)) <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> A. AIR <input type="checkbox"/> C. HIGHWAY </div> <div> <input type="checkbox"/> B. RAIL <input type="checkbox"/> D. WATER </div> <div> <input type="checkbox"/> E. OTHER (specify): </div> </div>	
VIII. FIRST OR SUBSEQUENT NOTIFICATION Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA I.D. Number in the space provided below.	
<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> A. FIRST NOTIFICATION <input type="checkbox"/> B. SUBSEQUENT NOTIFICATION (complete item C) </div> <div style="border: 1px solid black; padding: 5px;"> C. INSTALLATION'S EPA I.D. NO. <div style="border: 1px solid black; height: 20px; width: 100%;"></div> </div> </div>	
IX. DESCRIPTION OF HAZARDOUS WASTE Please go to the reverse of this form and provide the requested information.	

EPA Form 8700-12 (6-85)

CONTINUE ON REVERSE

Figure 2. EPA form 8700-12 (front) (Continued)

USE - FOR OFFICIAL USE ONLY											
DESCRIPTION OF HAZARDOUS WASTES (continued from front)											
HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.											
1	2	3	4	5	6						
7	8	9	10	11	12						
HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.											
13	14	15	16	17	18						
19	20	21	22	23	24						
25	26	27	28	29	30						
HAZARDOUS WASTES FROM CHEMICAL PRODUCT SOURCES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.											
31	32	33	34	35	36						
37	38	39	40	41	42						
43	44	45	46	47	48						
HAZARDOUS WASTES FROM HOSPITAL, VETERINARY, RESEARCH, AND RESEARCH LABORATORY SOURCES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospital, veterinary, research, and research laboratory sources your installation handles. Use additional sheets if necessary.											
49	50	51	52	53	54						
CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. (See 40 CFR Parts 261.31 - 261.34.)											
<input type="checkbox"/> 1. IGNITABLE (D001)			<input type="checkbox"/> 2. CORROSIVE (D141)			<input type="checkbox"/> 3. REACTIVE (D002)			<input type="checkbox"/> 4. TOXIC (D003)		
CERTIFICATION											
<i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i>											
SIGNATURE				NAME & OFFICIAL TITLE (type or print)				DATE SIGNED			

EPA Form 8700-12 (6-85) REVERSE

Figure 2. EPA form 8700-12 (back) (Concluded)

requiring reference to the EPA list of hazardous substances (40 CFR 261) to determine code numbers for the different hazardous materials.

48. A uniform manifest form for transportation use in all states has not been developed to go along with the Notification form. The State regulatory agencies have developed slightly different requirements. The following documentation is usually required (Kentucky Natural Resources and Environmental Protection Cabinet 1983):

- a. A manifest document number.
- b. The generator's name, mailing address, telephone number, and identification number.
- c. The name and identification number of each transporter.
- d. The name, address, and identification number of the designated facility and an alternate facility, if any.
- e. The description of the waste(s) (e.g., proper shipping name) required by regulations of the US Department of Transportation in 49 CFR 172.101, 172.202, and 172.203.
- f. The total quantity of each hazardous waste by units of weight or volume, and the type and number of containers as loaded into or onto the transport vehicle.
- g. Certification that the materials are in compliance with State, EPA, and Department of Transportation regulations for shipping hazardous materials.

Sources of assistance/advice

49. As stated, hazardous waste management is a complex issue, and advice from knowledgeable personnel is highly recommended. If there is reason to believe that a substance utilized or material or waste produced in a REMR activity may be regulated, the EPA listing should be consulted. The list of regulated substances is readily accessible on CELDS using the key words "Hazardous Materials." The State regulatory agencies can provide up-to-date information on applicable compliance requirements.

Fish and Wildlife Coordination Act

50. The Fish and Wildlife Coordination Act (FWCA) provides a general policy for conservation of wildlife resources. It is intended to ensure that Federal and State wildlife resource agencies have an opportunity to comment and make recommendations early enough to prevent the loss of valuable fish and wildlife resources. If REMR activities result in significant changes in

vegetation, channel flow, or other habitat components, FWCA coordination is normally undertaken as part of project documentation, which includes the EA or EIS. For projects that involve changes to fish and wildlife habitat or have high public interest, the FWCA provides a mechanism for getting input from the Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), and State fish and wildlife agencies. For most REMR activities, FWCA input will be through informal input, for example, a letter in response to a public notice. For larger or more important projects, this coordination effort, which is formalized in Planning Aid letters and the FWCA report, becomes part of the project documentation. The nature and significance of the action dictate the level of coordination that is appropriate.

Intent of the law

51. The FWCA authorizes the Corps to transfer funding to the FWS, NMFS, and State agencies to evaluate Corps plans and make recommendations relating to fish and wildlife. The agencies examine the impact of Corps activities for consistency with established wildlife conservation and protection efforts. The Corps considers this input in formulating activities that affect habitats. The Corps responds to objections to the project or recommendations for project modifications contained in the FWCA report. The FWCA enables the Corps to make project lands available to FWS, NMFS, or State agencies for fish and wildlife management, but does not provide the Corps authority to manage fish and wildlife directly (FWCA, Secs. 3(a) and (b)).

Scope of the law

52. REMR activities or larger O&M activities can result in acquisition of significant lands that can be managed for fish and wildlife purposes. Alternately, REMR or other new O&M activities may occur on previously unaffected project lands. In these cases, the FWCA can be used to obtain the FWS NMFS, or State input on management measures or to transfer management to another agency.

Compliance documentation required

53. For assessment of fish and wildlife impacts, the FWS or NMFS obtains information on the proposed activity from the Corps. This includes project maps and data on anticipated changes in vegetation, channel flows, and other characteristics important to habitat quality. The wildlife agencies use this information to review Corps plans, identify important habitats and

species likely to be affected, and make recommendations to minimize adverse impacts and enhance habitat quality.

Sources of assistance/advice

54. District personnel involved in EA and EIS preparation, i.e., environmental resources personnel in Planning, have experience with the FWCA and are knowledgeable of the details for transfer-funding arrangements with the FWS field offices and NMFS personnel.

Endangered Species Act

55. Protection of Federally listed threatened and endangered species of fish, wildlife, and plants is provided by coordination and decisions undertaken through the Section 7 Consultation process of the Endangered Species Act (ESA). The Consultation process was revised in 1986 to include guidance for Early, Informal, and Formal Consultation procedures (50 CFR 402). REMR activities involving major construction or land-use changes are more likely to cause destruction of endangered species or critical habitats than more routine, small-scale O&M actions.

Intent of the law

56. The ESA requires that listed or proposed-to-be-listed endangered species be protected from jeopardy and that their habitats be protected from destruction and adverse modification (ESA, Sec. 7(a)(2)). Federal agencies are required to consider reasonable and prudent measures to protect and conserve the species. The FWS and NMFS provide consultation and expertise for carrying out provisions of the ESA.

Scope of the law

57. The listed endangered species or proposed-to-be-listed species, and their habitats, are available from FWS, and changes in listing status are published regularly in the Federal Register. For no compliance action to be required, it must be determined that endangered species would not be jeopardized or habitat destroyed by REMR actions (ESA, Sec. 7(a)(50 CFR 402.14). These determinations are made by Corps personnel in conjunction with FWS or NMFS. If REMR activities are planned for an area designated as critical habitat for an endangered species, then Consultation procedures are required. If a previous consultation effort or an existing O&M, EA, or EIS concludes that continuance of O&M for the project will not affect listed species or their

habitats, then further consultation may not be required. New species may have been listed since the previous consultation or other conditions may affect the need for consultation.

58. The procedure used for proposed-to-be-listed species and habitat is for a conference to take place between the CE and FWS to determine the jeopardy to existence of species or destruction of habitat. During the conference, the FWS can make advisory recommendations on ways to minimize or avoid impacts. If the species or habitat becomes listed or designated prior to completion of the action, the CE must review its action to determine whether Formal Consultation is required (50 CFR 402.10(c)). The conference for proposed-to-be-listed species can be conducted at varying levels of efforts, depending on the severity of impact and the likelihood of impact. If deemed appropriate by the CE and FWS, the conference can be conducted in accordance with the Formal Consultation procedures (50 CFR 402.10(d)).

59. If a REMR activity could impact a listed species or an area designated as critical habitat, the CE would initiate consultation procedures. The objective of consultation is for the FWS or NMFS to make a jeopardy or no-jeopardy decision on the impact of the action on endangered species or their habitat (40 CFR 402, Subpart B). Under ESA, only the Formal Consultation (50 CFR 402.14) is required, but the formal process can be expedited if Early or Informal Consultation (both optional) is pursued first. For most REMR activities, the conflicts between the actions and impacts to the species can likely be resolved with the Informal or Early Consultation procedures.

60. In the consultation process, the Corps provides the FWS with (50 CFR 402.14(c)) information on the project, including:

- a. A description of the action to be considered.
- b. A description of the specific area that may be affected by the action.
- c. A description of any listed species or critical habitat that may be affected by the action.
- d. A description of the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative effects.
- e. Relevant reports, including any EIS, EA, or biological assessment.

61. If the REMR activity is a major construction activity, a biological assessment must be prepared (50 CFR 402.12(b)). For purposes of ESA, a major

construction activity is defined as a Federal activity that significantly affects the quality of the human environment as defined by NEPA (50 CFR 402.02). In other words, a biological assessment would be prepared if an EIS is prepared for the project. The biological assessment, in addition to the above-mentioned information, includes an evaluation of potential effects of the action on the endangered species and their habitat.

62. The FWS considers the project information or biological assessment and decides whether the proposed action is likely to jeopardize the continued existence of listed species or results in the destruction or adverse modification of critical habitat. This decision is formulated in a biological opinion (50 CFR 402.14(h)).

63. Potential preparation of a biological assessment is initiated by a request from the CE to the FWS for a listing of any listed or proposed-to-be-listed species. Alternately, the CE can provide a list of species that are planned to be addressed, and the FWS can concur or add species to the list within 30 days (50 CFR 402.12(c) and (d)). If the FWS indicates that no listed species or critical habitat is present, further consultation is not needed (50 CFR 402.12(d)(1)). For species that may be present, FWS provides a species list or concurs with the CE list, and also provides available information regarding these species and critical habitat (50 CFR 402.12(d)(2)).

64. The content of the biological assessment, evaluating the effect of REMR activities on listed species and critical habitats, will vary depending on the nature of the project (50 CFR 402.12(f)). The following items may be included in the biological assessment:

- a. Results of an onsite inspection.
- b. Views of recognized experts on the species.
- c. Review of the literature and other information.
- d. Analysis of the effects of the action on the species and habitat, including consideration of cumulative effects, and results of related studies.
- e. Analysis of alternate actions considered for the proposed action.

The biological assessment is to be completed within 180 days after receipt of the list of species from FWS (50 CFR 402.12(i)). If a proposed REMR action is identical or very similar to a previous action for which a biological assessment was prepared, the CE can incorporate by reference the earlier biological

assessment, if similar impacts are anticipated and no new species have been listed (50 CFR 402.12(g)).

65. A discussion of consultation procedures follows. The consultation process can be complicated, and assistance from environmental resources personnel is recommended. The three consultation procedures discussed are intended to minimize the time, effort, and potential confusion and to reduce delays in compliance efforts.

66. The Early Consultation Procedure (50 CFR 402.11) can be initiated as soon as the CE determines that there may be a potential conflict between a listed species or habitat and the planned REMR activity. The purpose of Early Consultation is to identify potential conflicts early in the planning process. Early Consultation can occur prior to initiation of any action or completion of plans by the CE.

67. In Early Consultation, the project information outlined above is presented to FWS. The FWS considers the information and delivers a preliminary biological opinion. If Formal Consultation is pursued, then the preliminary biological opinion is considered and may become the biological opinion for the Formal Consultation, if habitat conditions, project plans, and other conditions have not changed.

68. The analysis in the biological assessment is used by the CE to determine if Formal Consultation is required (50 CFR 402.12(k)(1)). The CE can request initiation of Formal Consultation, based on the assessment. If this option is not used, the biological assessment is submitted to FWS for review and concurrence. (If the Formal Consultation is to be initiated, the biological assessment is submitted for concurrence concurrently with initiation of Formal Consultation.) If the assessment shows that no listed species or critical habitat is likely to be adversely affected, and FWS concurs, then Formal Consultation is not required.

69. If the biological assessment determines that a species or habitat may be adversely affected, then Formal Consultation is required. If Early Consultation was undertaken and the preliminary biological opinion resulting from that consultation indicates that the action is not likely to adversely affect the species or habitat, then, with FWS concurrence, Formal Consultation is not required (50 CFR 402.14(b)(1)). Alternately, the optional Informal Consultation can be pursued.

70. Informal Consultation is intended to except from the Formal Consultation process those actions that, on informal review, are found not likely to adversely affect a listed species or critical habitat (50 CFR 402.13). If during Informal Consultation it is determined that the proposed activities are not likely to adversely affect listed species or critical habitat, the consultation process is terminated; written concurrence of the decision by FWS is required (50 CFR 402.13(a)). The FWS can suggest modifications to the actions to avoid likelihood of adverse effects (50 CFR 402.13(b)).

71. Formal Consultation is initiated by the CE with submission of a biological assessment on the effects of the proposed project, along with other relevant information, to the FWS (50 CFR 402.14(c)). The Formal Consultation process is to be completed within 90 days after initiation, and the biological opinion is to be delivered within 45 days (50 CFR 402.14(e)).

72. The FWS formulates its biological opinion whether the action and cumulative effects are likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat (50 CFR 402.14(g)(4)). The FWS develops its biological opinion by evaluating the current status of the listed species or habitat, in light of the biological assessment and other information provided by the District (50 CFR 402.14(g)(1)(2) and (3)). For cases where a jeopardy opinion is rendered, the FWS in conjunction with the CE will identify reasonable and prudent alternatives that the CE can take to avoid the adverse impacts. The CE can provide its expertise and experience in development of these alternatives. The FWS can make available a draft biological opinion to the CE, and the Corps can provide written comments to the FWS during the 45-day period for preparation of the biological opinion.

73. In addition to the reasonable and prudent alternatives, the biological opinion may include discretionary conservation recommendations and provisions for incidental takes (50 CFR 402.14(i)). Conservation recommendations are provided as means for the CE to reduce or eliminate the impacts to a listed species or critical habitat (50 CFR 402.14(i)). These recommendations are advisory and not intended to carry binding legal force (50 CFR 402.14(j)). For CE actions that may result in incidental take of species, the FWS will specify the impact, i.e., the amount and extent, of incidental takes and set forth the terms and conditions that must be complied

with, i.e., reasonable and prudent measures to minimize the impact of the incidental takes (50 CFR 402.14(i)).

74. Formal Consultation ends with the issuance of the biological opinion. If a jeopardy biological opinion is issued, the CE notifies the FWS of its final decision on the action. If, after consultation with the FWS, the Corps determines that it cannot comply with alternatives presented in the biological opinion, the exemption process can be pursued (50 CFR 402.15).

Compliance documentation

75. For the consultation process to be effective in minimizing impacts caused by REMR activities and preventing delays inherent in the Formal Consultation process, it is imperative that the most detailed or up-to-date data be used in the biological assessment and biological opinion. For the initial request to the FWS or NMFS for data on the presence of species in the study area, a project map and/or detailed description of the site location is required. The biological assessment, performed by Corps environmental resources personnel, requires detailed information on changes in the natural resources that affect the species or habitats, e.g., vegetation clearing, excavation, in-stream flow alterations, and access points. In addition to this, the consultation process requires information on possible alternatives or acceptable modifications.

Sources of assistance

76. District environmental resources personnel responsible for endangered species are the most expedient source of assistance.

National Historic Preservation Act

77. The National Historic Preservation ACT (NHPA) provides the national policy for protection of historic, architectural, archeological, and cultural resources. Protection of these resources is accomplished through efforts of the Advisory Council on Historic Places of the Department of the Interior, the State Historic Preservation Officers (SHPO), and local or other historic preservation groups (Sec. 106, NHPA). REMR activities are to be implemented so as to minimize adverse effects on historic and cultural resources to comply with NHPA.

Intent of the law

78. REMR and other Federal actions must consider impacts to properties listed on or eligible for inclusion on the National Register of Historic Places (36 CFR 800.1). The adverse impacts to National Register properties caused by REMR activities could include such things as alteration or destruction of the property, alteration of the environment surrounding the property, or introduction of visual or audible elements that are out of character with the property (36 CFR 800.9). Measures to prevent or minimize adverse impacts are formulated prior to implementation of a REMR activity.

Scope of the law

79. Many REMR activities cause minor or insignificant impacts because of their short duration or localized nature. In these cases, minimal consultative actions are required. The SHPO consultation, Advisory Council review, and cultural resources study described here are usually associated with projects that have longer term or more widespread impacts. However, it should be noted that many sites eligible for the National Register are small and can be destroyed by short-duration activities.

80. The National Park Service (NPS) has developed guidance for evaluation of properties for inclusion on the National Register (36 CFR 60). The process for determining if a proposed activity will have an effect on properties on or eligible for inclusion on the National Register is known as the Advisory Council for Historic Preservation (ACHP) Compliance Process (36 CFR 800). The process includes identification of the cultural resource, determination of impacts on National Register property, and identification of adverse effects (36 CFR 800.5, .6, and .9). Based on these determinations, alternatives to minimize the adverse effects are recommended, including avoidance through project design or modification and mitigation through design modification or through research efforts to recover information (36 CFR 800.5(e)).

81. Compliance with Section 106 of NHPA is initiated by coordination with the SHPO and, possibly, local preservation groups. The District archeologist or historic resources personnel from Planning and Operations would be responsible for this effort working with the SHPO (36 CFR 800.4). Previous Planning or O&M activities for a Corps project may have identified adjacent National Register properties that would be affected by REMR activities. Documentation of previous projects should be examined for any cultural

resource documentation. There may be incomplete or no cultural resource documentation for a REMR activity at a project in operation prior to 1966, when NHPA was enacted. For these cases, more extensive inventory and assessment efforts are required.

82. National Register properties, or properties eligible for inclusion, that could be affected by the REMR activity can be determined either by previous cultural resource documentation or by consultation with SHPO or other individuals or organizations with historical and cultural expertise (36 CFR 800.4). If previous documentation or consultation indicates that no properties would be affected, no further actions are necessary (36 CFR 800.4(d)). Where there is no documentation, a cultural resources survey may be required to determine if properties eligible for inclusion on the National Register are in the project area.

83. For National Register properties that could be affected, the Corps must assess the effects (36 CFR 800.5) by applying effect and adverse effect criteria (36 CFR 800.9). The effect criteria provide guidance in determining if the proposed REMR activity may alter characteristics of the property that may qualify it for inclusion on the National Register (36 CFR 800.9(a)). Adverse effects occur if Corps activities result in physical destruction or alteration, isolation of the property, introduction of visual, audible, or atmospheric elements that are out of character with the property or its setting, or result in neglect, transfer, or sale of the property (36 CFR 800.9(b)). If National Register properties are affected, the ACHP may be given an opportunity to comment on the project (36 CFR 800.6(b)), and the NPS is informed of the project (Public Law (PL) 93-291).

84. Based on the identified adverse effects (36 CFR 800), alternative plans or modifications to plans are developed to preserve the integrity of historic and cultural properties. If adverse impacts to National Register sites are identified, then the CE, in conjunction with the SHPO, determines appropriate measures and methods to minimize or mitigate the adverse effects. A Memorandum of Agreement (MOA) is executed documenting how the effects will be taken into account (36 CFR 800.5(e)(4)). The MOA is submitted to the ACHP, which has 30 days for review of the MOA (36 CFR 800.6(a)). The ACHP can accept the MOA, suggest changes to the MOA, or decide to make comment within 60 days (36 CFR 800.6(a)).

Compliance documentation requirements

85. Determination of adverse effects on historic properties is based on changes, e.g., excavation, inundation, or isolation (as by a levee), caused by REMR activities (36 CFR 800.8(b)). The initial consultation with the SHPO requires maps or a designation of projected impact areas. The data collected for use in the cultural resource studies should be available or should be able to be developed from sources within the District, the SHPO office, or other historic preservation organizations. In some cases, field surveys may be required.

Sources of assistance

86. The District archeologist or historic properties personnel are the best source of guidance for compliance with NHPA.

Reservoir Salvage Act/Archeological and Historic Preservation Act

87. The Reservoir Salvage Act provides protection for historic, pre-historic, and archaeologic sites that may be inundated or destroyed by Federal projects. Since its 1974 amendments, the Act has usually been referred to as the Archeological and Historic Preservation Act. The law was enacted to prevent irrevocable damage or loss of archeologic sites resulting from inundation through onsite protection or recovery prior to inundation. Rehabilitation efforts that involve inundation or terrain alterations that are not part of the original design or operation could affect archeologic sites. The law provides that up to 1 percent of construction costs can be spent for recovery, protection, and preservation of the archeologic data and provides that either the CE or the NPS can be responsible for preservation efforts. Exemptions to the 1-percent limit can also be granted (16 United States Code (USC) 469-469c; PL 86-523 as amended). (Note: The Reservoir Salvage Act is sometimes cited as PL 93-291, the citation for the 1974 amendments, since the amendments almost completely rewrote the Act.)

Intent of the law

88. The intent of the Act is to protect archeological resources from destruction from inundation or alterations by CE projects. Impacts such as inundation or terrain alterations that impact archeological sites are reported to the Department of the Interior's Consulting Archeologist in Washington,

DC, or at the regional offices. (District cultural resources personnel will know the appropriate office.) As implementation plans for the project are developed, the NPS is informed of changes to project features that could destroy or affect cultural resources.

Scope of the law

89. The presence of archeologic resources on a CE project may be documented by Planning reports and EA or EIS documentation for O&M activities, as described for the NHPA. If the cultural resources on the project site have not been documented and REMR activities include inundation or other actions that would destroy sites, then the District archeologist or cultural resources personnel should perform a Historic Property Study to determine the potential for impacts to archeological resources. Identified archeological sites are evaluated, and mitigation requirements are determined. Plans for mitigation, e.g., preservation in place or excavation and curation, are developed. Ongoing coordination and consultation with the NPS occur as the project plans become more detailed, possible impacts to sites are determined, and mitigation plans are formulated.

Compliance documentation requirements

90. The compliance documentation includes the assessment and potential impact of the project, as well as documentation of cultural resource studies or impact assessments prepared as part of the NHPA or for NEPA compliance.

Sources of assistance/advice

91. The District archeologist or cultural resources personnel in Planning can provide the expertise required for preparation of the Historic Property Study and other necessary consultation documents for the NPS.

Marine Protection, Research, and Sanctuaries Act

92. The Marine Protection, Research, and Sanctuaries Act (MPRSA) is intended to protect ecological values of marine habitats through the regulation of disposal of dredged and nondredged material in marine environments. As with riverine dredged material disposal, the CE is responsible, pursuant to Section 103, for issuing permits for dredged material disposal. The EPA regulates disposal of nondredged material under Section 102 of the MPRSA (33 USC 1401-1435). The National Ocean Service of the National Oceanic and

Atmospheric Administration is responsible for regulation of marine sanctuaries (15 CFR 922). The National Marine Sanctuaries are listed in Table 4.

Intent of the law

93. The MPRSA requires that marine disposal of dredged and nondredged material be done consistent with protection of marine fishery, shellfish, and other aquatic species and their habitats. Ocean disposal that results from REMR activities, e.g., dredging or excavation, must comply with the established disposal criteria and regulations. Utilization of a disposal site previously designated for O&M may be possible without further analysis and site designation studies if the material is shown to be acceptable for ocean disposal and meets the EPA environmental impact criteria.

Scope of the law

94. Regulation of ocean disposal of dredged material is based on technical judgments of the effects of disposal material on the ecological values of the marine environment. The dredged material may be acceptable for ocean disposal without analysis if it meets certain criteria for particle size: it is sand rather than silt, the material is substantially the same as the disposal site substrate, and the origin of the disposal material is not removed from a historical pollution source, i.e., the material is not likely to be contaminated by pollutants (40 CFR 227.13(b)). The EPA/CE testing and evaluation procedures determine the impact of dredged material on the water column, benthic impacts, and physical and chemical characteristics of the materials. Bioassay, bioassessment, and bioaccumulation techniques may be used to predict biological effects of the dredged material. The use of the EPA/CE criteria determines if the proposed site is suitable for disposal of the dredged material. If the criteria preclude use of the proposed site, the CE makes a determination of the effects of not using the disposal site and of using other methods and locations of disposal. EPA must concur with the designation of an alternate site.

95. EPA evaluates the disposal of nondredged material for the same type impacts as the CE evaluates dredged material. The CE must make an assessment of the anticipated environmental impact of disposal and provide other details of the planned disposal operation. The nondredged disposal material produced by REMR activities would likely fall under provisions of general, interim, or research permits (40 CFR Parts 220-225). General permits are for the disposal of materials that have minimal adverse environmental impacts. Interim permits

are for the disposal of materials with trace contaminants. Disposal related to ongoing REMR research or development of REMR procedures could probably be provided for under a research permit. The Regional EPA offices are responsible for permits. The EPA Washington office is responsible for site designation.

Compliance documentation requirements

96. The required documentation is intended to give the Corps or EPA the necessary information to approve the proposed disposal site. For compliance with Corps Section 103 permits, analyses of water quality impacts and water and dredged material samples are required to determine likely biological impacts. The EPA/CE manual (EPA/CE 1977) gives detailed guidance for analysis, including sampling of sediment and water and liquid-phase chemical analysis of the dredged material. The biological analyses required are (a) animal and phytoplankton bioassays of the liquid phase and suspended particulate phase of the dredged material, (b) bioaccumulation potential, and (c) solid-phase bioassays. Permit personnel are familiar with the performance and interpretation of these analytical procedures and should be able to assist with in-house or contracted analysis efforts.

97. EPA approval for nondredged disposal requires an assessment of anticipated environmental impact, in addition to the information on the disposal operation. Disposal operation information includes detailed descriptions of the materials to be disposed, the method of disposal, and the disposal site. There must be a justification of the need for ocean disposal rather than other alternative disposal methods, including how the material had been disposed of previously.

Sources of assistance/advice

98. Operations and permit personnel have extensive experience in ocean disposal of dredged material. Assistance with Section 102 permits for non-dredged material disposal is available from Regional offices of EPA (Appendix A).

Coastal Zone Management Act and Estuary Protection Act

99. The Coastal Zone Management Act (CZMA) and Estuary Protection Act are intended to promote the wise use and protection of coastal and estuarine resources. These laws provide for review and comment by the responsible

agencies for anticipated projects that occur in coastal and estuarine areas. Action under these laws is limited to review and comment by the responsible agencies.

Coastal Zone Management Act

100. The CZMA promotes coordination in the management, beneficial use, protection, and development of the coastal zone (16 USC 1451-1464; PL 92-583 as amended). These objectives are implemented by providing planning funds to State agencies responsible for developing programs and comprehensive land-use plans for the coastal zone. States are not required by the CZMA to participate; therefore, some States do not have coastal zone plans. For REMR projects resulting in land-use changes or major environmental changes in coastal areas, the coastal zone management plans can provide an indication of which types of land uses are considered desirable and what long-term land alterations would be inconsistent with plans for the coastal zone.

101. Intent of the law. The CZMA requires that activities in coastal areas be reviewed by the State coastal zone agency for consistency with the State's coastal zone program. This entails coordination between the CE and the State coastal zone management agency.

102. Scope of the law. For coastal zone management, the minor and short-term impacts caused by REMR activities are not as important as large-scale projects that cause land-use changes. The CE is responsible for determining if the REMR activity is consistent with the State's coastal zone plan and for providing that evaluation to the State agency at least 90 days before project implementation or before final approval of project implementation. The State agency then has 45 days to transmit its response to the consistency determination. The consistency determination becomes part of the project documentation. The Corps and the coastal zone agency then discuss alternatives, modifications to plans, or other ways to minimize the impacts of the REMR activity.

103. Compliance documentation requirements. Copies of the coastal zone management plans can be examined to determine consistency of REMR activities with the plan. The State agency needs documentation on siting and the type and extent of impacts of the proposed REMR activity. Such things as land-use changes and impacts on vegetation, water, and other natural resources are of interest to the coastal planning agencies.

104. Sources of assistance/advice. The State agency responsible for coastal zone programs and planning can provide information on coastal zone requirements and restrictions in a project area.

Estuary Protection Act

105. The Estuary Protection Act protects estuarine resources from adverse impacts from large Federal projects by requiring documentation of impacts prior to Congressional authorization, e.g., project authorization. REMR activities requiring a separate Congressional authorization would likely be large-scale project modification of such magnitude that NEPA documentation would probably be required, rather than the more typical REMR activities.

106. Intent of the law. The law was intended to ensure that Federal development projects do not cause irrevocable changes to valuable estuarine environments (16 USC 1221-1226). The Estuary Protection Act requires that the ecological values of estuaries be considered or balanced with the need for commercial and industrial development. The FWS reviews project plans and makes recommendations to minimize impacts.

107. Scope of the law. Impacts to estuarine resources protected by the Estuary Protection Act are associated with projects that likely require compliance with NEPA or FWCA; therefore, compliance with the intent of the Estuary Protection Act may already be accomplished under these statutes. REMR activities requiring compliance actions are components of O&M actions that are authorized, based on a separate Congressional document, and for which an EA or EIS has not been approved. The primary adverse impacts of concern are water quality changes and habitat alteration. For example, alterations of estuarine substrates and circulation patterns caused by the rehabilitation of coastal structures can change the type, size, and quality of aquatic habitats in estuaries. Documentation of the impacts to the estuary is reviewed by FWS, and comments and recommendations are transmitted to the CE. The documentation and FWS recommendations become part of the report transmitted to Congress.

108. Compliance documentation requirements. Assessment of impacts to estuarine resources requires determination of the impacts of REMR activities on benthic, shellfish, and fishery resources. Implementation plans or designs are required for impact assessment, including seasonal variations and scheduling provisions.

109. Sources of assistance/advice. Environmental resources personnel responsible for marine and coastal projects can provide assistance with assessment of estuarine impacts of REMR activities.

Marine Mammal Protection Act

110. The Marine Mammal Protection Act (MMPA) is intended to protect stocks of marine mammals from losses as the result of taking (killing) and destruction of habitat (16 USC 1451-1464; PL 92-583 as amended). The MMPA requires a Letter of Authorization or permit for any taking or habitat destruction. Takings caused by REMR activities may be highly unlikely, but coastal rehabilitation activities may result in habitat destruction.

Intent of the law

111. The MMPA is administered by the NMFS and FWS through permits and regulation of conditions of taking. If an activity will result in the taking or potential taking of a protected species, then the NMFS or FWS reviews the proposed activity to determine if the activity will cause significant impacts to the protected species.

Scope of the law

112. Determination that a protected marine-mammal species may be endangered by REMR activity is dependent on the location of the activity and its subsequent impacts. Environmental resources personnel or marine species specialists can provide assistance in determining locations of species stocks and their critical habitat. If it is determined that REMR activities will result in incidental (i.e., infrequent, unavoidable, or accidental, but not intentional) taking, then the FWS or NMFS may provide a permit or Letter of Authorization for the taking.

113. The FWS and NMFS have responsibilities for different species. FWS is responsible for the polar bear; sea otter; walrus; dugong; West African, West Indian, and Amazonian manatee; and marine otter (50 CFR 18.2). NMFS is responsible for whale species, porpoises, dolphins, seals, and sea lions (50 CFR 222.21-.28).

114. The NMFS has established regulations for the taking of different species (50 CFR 228.5). These regulations set forth the permissible taking methods and requirements for monitoring and reporting. The regulations are

revised from time to time, based on new information, monitoring, reporting, or research data.

115. The NMFS compliance process requires that a request be submitted detailing the proposed activity and assessing the impacts to the species and its habitat (50 CFR 228.4). Public notice is given of the request, inviting comment and suggestions. The request is evaluated on the basis of whether the total taking constitutes a negligible impact on the species or stocks of marine mammals, on their habitat, and on the availability of the species for subsistence uses. A Letter of Authorization is issued for taking if a negligible impact is determined (50 CFR 228.6). The Letter of Authorization is issued for a specified time period and includes terms and conditions (in addition to those in the species regulations) for the specific taking request.

116. For species for which the FWS is responsible, a similar impact-determination process takes place, and a Letter of Authorization is issued.

Compliance documentation requirements

117. For the NMFS or FWS to make the required impact determinations, documentation of the proposed REMR activity and assessment of the impacts to the marine mammals and their habitats are required. These include (50 CFR 228.4):

- a. A description of the REMR activity that may result in incidental takings or habitat destruction.
- b. Dates, duration, and specific areas where the activity will occur.
- c. An assessment of the species and numbers of marine mammals likely to be taken by age, sex, and reproductive condition; type of taking, e.g., injury or death; and the number of times such taking is likely to occur.
- d. A description of the status, general distribution, and seasonal distributions of the affected species or stocks likely to be affected.
- e. Anticipated impacts on species or stocks, and the availability of the species or stocks for subsistence uses.
- f. Impacts to habitats and potential for habitat restoration, and measures taken to minimize adverse impacts.
- g. Monitoring and/or recordkeeping to document takings and other species information.

Additional project information may be required by the FWS or NMFS.

Sources of assistance/advice

118. Environmental resources personnel that work with coastal projects can provide assistance with impact assessment and documentation.

Federal Insecticide, Fungicide, and Rodenticide Act

119. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) regulates use, distribution, and disposal of these pesticides (7 USC 135 et seq.). The States are responsible for implementation, regulation, and provisions of the FIFRA. Use of pesticides in REMR activities has to be in compliance with State regulations for pesticide use.

Intent of the law

120. The FIFRA is intended to ensure that pesticide use and disposal be carried out to protect the natural and human environment. State regulation of pesticides varies in such things as permit requirements and criteria for exemptions.

Scope of the law

121. REMR activities involving regulated pesticides must comply with applicable State regulations. Small-quantity users or Government agencies may be exempted from regulation in some states. Pesticides are classified by the EPA for general or specific restricted uses (40 CFR 162), and uses must comply with the EPA and State requirements. Disposal of pesticides and pesticide-related wastes must be in compliance with EPA and State regulations (40 CFR 165).

Sources of advice/assistance

122. District personnel responsible for O&M activities may be familiar with any restrictions or requirements for use of the pesticides in project O&M operations, e.g., vegetation maintenance. The responsible State regulatory agency can provide information on the State pesticide regulations. The State agencies are listed in Table 5.

Wild and Scenic Rivers Act

123. The Wild and Scenic River System was established by the Wild and Scenic Rivers Act (WSRA) to protect the environmental values of free-flowing

streams from degradation by water resource projects. The system is administered jointly by the Forest Service (FS), Department of Agriculture, and NPS of the Department of the Interior. REMR activities on streams included in the System are subject to review by the agency responsible for the river. Table 6 lists the rivers for which reaches are protected under the WSRA. Corps Planning, FS, or NPS personnel and the CELDS system can delineate the protected reaches.

Intent of the law

124. The WSRA requires consideration of the impacts to wild and scenic rivers and consultation with the responsible Federal agency prior to implementation of a project. The FS or NPS is informed of impending licences or permits, e.g., Section 404 permits that are to be issued by a District and would affect a stream. In addition, the WSRA requires that the possibility of adding rivers to the System be considered; this requirement is more appropriate for large Planning studies than REMR activities.

125. Discharges into streams, impoundments, diversions, channel alterations, and other measures can alter the stream discharge, velocity, and channel dimensions. These hydraulic changes may cause modifications to the free-flowing character of the stream, resulting in loss or diminution of the environmental value of the river.

Scope of the law

126. The nature of specific REMR activities may exclude the requirements for notification of permit actions and the consideration for inclusion of the stream in the System. The limited magnitude of impacts caused by many REMR activities will likely require minimal coordination with the FS or NPS. If a REMR activity is planned for a stream included in or proposed for inclusion in the Wild and Scenic River System, the impacts to the stream are assessed. The analysis requires the determination of adverse effects on the stream's free-flowing characteristics. The assessment is provided to the FS or NPS at least 60 days prior to implementation of the activity so that the agency can review and comment on the proposed action.

Compliance documentation requirements

127. The WSRA requires an evaluation of how impacts caused by a proposed REMR activity can conflict with the values for which the river was included in the System (16 USC 1278). If an O&M EA or EIS has not been prepared, the impact assessment is performed and becomes part of the study

documentation. This evaluation of impacts follows the same approach to impact assessment used in the District's environmental studies (36 CFR 297.6).

Sources of advice/assistance

128. The environmental resources personnel can provide advice for preparing impact assessments and coordination efforts with the FS or NPS. Rivers with protected reaches included in the Wild and Scenic River System are listed in Table 6.

Protection of Wetlands, Executive Order 11990

129. Wetland and wetland values are to be considered in all Corps actions. Construction activities, e.g., channelizing, are to be avoided in wetlands.

Requirements of the law

130. If anticipated REMR activities will involve construction in wetlands, then an analysis is made of alternatives to the action and of an evaluation of impacts to wetlands values, e.g., wildlife conservation. These analyses become part of the project documentation or are incorporated in an EA or EIS for the action.

Scope of the law

131. The analysis of anticipated construction actions in wetlands is intended to explicate that: (a) there is no practical alternative to the construction and (b) all practical measures to minimize harm are included as part of the construction activity (Sec. 2). The assessment of impacts on wetland values should include consideration of the following factors (Sec. 5):

- a. Public health, safety, and welfare, including water supply, quality, recharge, and discharge; pollution; flood and storm hazards; and sediment and erosion.
- b. Conservation and maintenance of existing flora and fauna species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources.
- c. Other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

Compliance documentation requirements

132. The data required for the analysis of effects to wetlands are available from the plans and design for the REMR construction activity.

Information on wetland values is available from environmental resources personnel in Permits and Planning. This Executive Order encourages use of existing processes or other already in-place compliance mechanisms (Sec. 6). For instance, the requirement for analysis of effects to wetlands may be fulfilled as part of a Sec. 404(b)(1) evaluation or as part of compliance with some other requirement.

Floodplain Management, Executive Order 11988

133. REMR and all other Corps and Federal activities should minimize adverse environmental impacts to floodplains. Activities in floodplains should be limited to actions for which no alternative is practicable (ER 1165-2-26).

134. This Executive Order is intended to prevent Federal investments in floodplains, so as to minimize risks to public health and safety and protect Federal investments, e.g., flood insurance. REMR activities are short term or intermittent in nature and so, in almost all cases, would be in compliance with the Order.

PART III: SUMMARY

135. The compliance activities identified in this report are intended as information to be used in planning the implementation of REMR activities. In addition to the compliance requirements, the laws may be viewed as providing a mechanism or framework for the Corps or other agencies to protect the quality of the environmental resources affected by Corps projects. District environmental resources personnel can assist by providing advice on applicability of specific laws and identifying significant environmental resources and impacts.

REFERENCES

- Environmental Protection Agency/Corps of Engineers Technical Committee on Criteria for Dredged and Fill Material (EPA/CE). 1977. "Ecological Evaluation of Proposed Discharge of Dredged Material into Ocean Waters; Implementation Manual for Section 103 of Public Law 92-532," Environmental Effects Laboratory, US Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Henderson, Jim E., and Peyman, Linda D. 1986. "Applicability of Environmental Laws to REMR Activities," Technical Report REMR-EI-1, US Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Henderson, Jim E., and Teaford, James W. 1985. "Environmental Planning and Management Alternatives for the Tennessee-Tombigbee Corridor," Miscellaneous Paper, EL-85-5, US Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Kentucky Natural Resources and Environmental Protection Cabinet. 1983. "Kentucky Waste Management Regulations," Frankfort, KY.
- Office, Chief of Engineers, Department of the Army. 1979. "Notice of Intent to Prepare a Draft Environmental Impact Statement," Engineer Regulation 200-2-1, Washington, DC.
- _____. 1981. "Policy and Procedures for Implementing NEPA," Engineer Regulation 200-2-2 (revised version, in preparation), Washington, DC.
- _____. 1982. "Environmental Resources," Engineer Regulation 1105-2-50, Washington, DC.
- Van Weringh, J., et al. 1978. "Computer-Aided Environmental Legislative Data System (CELDS) User Manual," Technical Report N-56, US Army Engineer Construction Engineering Research Laboratory, Champaign, IL.

Table 1

State Water Quality Agencies

State	Agency
Alabama	Water Improvement Commission 749 State Office Building Montgomery, AL 36130 (205, 277-3630)
Alaska	Department of Environmental Conservation Pouch O Juneau, AK 99811 (907, 465-2605)
Arizona	Bureau of Water Quality Control Division of Environmental Health Services 1740 W. Adams Phoenix, AZ 85007 (602, 271-5453)
Arkansas	Department of Pollution Control and Ecology 8001 National Drive P.O. Box 9583 Little Rock, AR 72209 (501, 371-1701)
California	State Water Resources Control Board Room 1140, Resources Bldg. 1416 9th St. P.O. Box 100 Sacramento, CA 95814 (916, 445-6582)
Colorado	Water Quality Control Division Department of Health 4210 E. 11th Avenue Denver, CO 80220 (303, 388-6111)
Connecticut	Commissioner of Environmental Protection Department of Environmental Protection Room 161, State Office Building Hartford, CT 06115 (203, 566-5599)

(Continued)

Table 1 (Continued)

State	Agency
Delaware	Division of Environmental Control Department of Natural Resources and Environmental Control 89 Kings Highway P.O. Box 1401 Dover, DE 19901 (302, 678-4403)
Florida	Department of Environmental Regulation 2600 Blair Stone Road Twin Towers Office Building Tallahassee, FL 32301 (904, 488-4807)
Georgia	Environmental Protection Division Department of Natural Resources 270 Washington St. S.W. Atlanta, GA 30334 (404, 656-3530)
Hawaii	Division of Environmental Health Department of Health 1250 Punchbowl Street Honolulu, HI 96813 (808, 548-2211)
Idaho	Department of Health and Welfare Division of Support Services Administrative Procedures Section 450 W. State Street, 9th Floor Boise, ID 83720 (208, 384-2433)
Illinois	Illinois Environmental Protection Agency 2200 Churchill Road Springfield, IL 62706 (217, 782-0610)
Indiana	Stream Pollution Control Board State Board of Health 1330 W. Michigan St. Indianapolis, IN 46206 (317, 633-8400)

(Continued)

Table 1 (Continued)

State	Agency
Iowa	Iowa Department of Natural Resources Henry A. Wallace Building 900 East Grand Des Moines, Iowa 50319 (515, 281-7625)
Kansas	Bureau of Water Protection Division of Environmental Health Forbes AFB Topeka, KS 66620-7311-49 (913, 862-9360)
Kentucky	Division of Water Quality Department of Natural Resources and Environmental Protection 1065 US 127 Bypass-South Century Plaza Frankfort, KY 40601 (502, 564-3350)
Louisiana	Louisiana Department of Natural Resources Coastal Resources Program P.O. Box 44396 Baton Rouge, LA 70804 (504, 389-7361)
Maine	Bureau of Water Quality Control Department of Environmental Protection State House Station 17 Augusta, ME 04333 (207, 289-2666)
Maryland	Department of Health and Mental Hygiene Water Management Administration 201 West Preston Street Baltimore, MD 21201 (301, 383-2737)

(Continued)

(Sheet 3 of 8)

Table 1 (Continued)

State	Agency
Massachusetts	Water Resources Commission Division of Water Pollution Control Department of Environmental Quality Engineering One Winter Street Boston, MA 02108 (617, 292-5673)
Michigan	Water Resources Commission Department of Natural Resources Stevens T. Mason Bldg. Box 30028 Lansing, MI 48909 (616, 373-1947)
Minnesota	Division of Water Quality Minnesota Pollution Control Agency 1935 West Country Road B-2 Roseville, MN 55113-2785 (612, 296-7202)
Mississippi	Department of Natural Resources Bureau of Pollution Control P.O. Box 10385 Jackson, MS 39209 (601, 354-2550)
Missouri	Water Pollution Control Program Division of Environmental Quality Department of Natural Resources P.O. Box 1368 Jefferson City, MO 65101 (314, 751-3241)
Montana	Water Quality Bureau Environmental Sciences Division Department of Health and Environmental Sciences Cogswell Building, Helena, MT 59601 (406, 449-2544)
Nebraska	Department of Environmental Control Box 94877, State House Station Lincoln, NB 68509 (402, 471-2186)

(Continued)

Table 1 (Continued)

State	Agency
Nevada	Department of Conservation and Natural Resources Division of Environmental Protection Capitol Complex 201 South Fall St., Room 221 Carson City, Nevada 89710 (702, 885-4380)
New Hampshire	Water Supply and Pollution Control Commission P.O. Box 95 - Hazen Drive Concord, NH 03301 (603, 271-3503)
New Jersey	Division of Water Resources Department of Environmental Protection P.O. Box CN-029 Trenton, NJ 08625 (609, 292-2203)
New Mexico	Water Quality Control Commission P.O. Box 968 Sante Fe, New Mexico 87504 (505, 827-5271 ext. 318)
New York	Department of Environmental Conservation 50 Wolf Road Albany, New York 12201 (518, 457-3446)
North Carolina	Environmental Management Commission Department of Natural Resources and Community Development P.O. Box 27687 Raleigh, NC 27611 (919, 733-5083)
North Dakota	North Dakota Department of Health 1200 Missouri Ave. Bismarck, ND 58505 (701, 224-2386)

(Continued)

Table 1 (Continued)

State	Agency
Ohio	Ohio Environmental Protection Agency Division of Water Quality Monitoring and Assessment P.O. Box 1049 Columbus, Ohio 43216-1049 (614, 466-9092)
Oklahoma	Water Resources Board P.O. Box 53585 1000 N.E. 10th, 12th Floor Oklahoma City, Oklahoma 73152 (405, 271-5600)
Oregon	Water Quality Control Division Department of Environmental Quality 1234 S.W. Morrison St. Portland, OR 97207 (503, 229-5395)
Pennsylvania	Department of Environmental Resources Division of Water Quality Management P.O. Box 2063 11th Floor Fulton Bldg. Harrisburg, PA 17120 (717, 787-2666)
Rhode Island	Division of Water Resources Department of Environmental Management 75 Davis Street Providence, RI 02908 (401, 277-2234)
South Carolina	Department of Health and Environmental Control 2600 Bull Street Columbia, SC 29201
South Dakota	Dept. of Water and Natural Resources Office of Water Quality Joe Foss Building Pierre, SD 57501 (605, 773-3351)

(Continued)

Table 1 (Continued)

State	Agency
Tennessee	Department of Health and Environment Bureau of Environment Division of Water Management 621 Cordell Hull Bldg. Nashville, TN 37219 (615, 741-2275)
Texas	Texas Water Commission P.O. Box 13087 Capitol Station Austin, TX 78711 (512, 475-6658)
Utah	Department of Social Services State Division of Health 150 North West Temple P.O. Box 2500 Salt Lake City, UT 84110 (801, 533-6146)
Vermont	Water Resources Board State Office Building Montpelier, VT 05602 (802, 828-2871)
Virginia	State Water Control Board 2111 Hamilton Street Post Office Box 1143 Richmond, VA 23230 (804, 257-0056)
Washington	Department of Ecology P.O. Box 829 Olympia, WA 98504 (206, 753-2800)
West Virginia	Division of Water Resources Department of Natural Resources 1205 Greenbriar Street Charleston, WV 25305 (304, 348-2107)
Wisconsin	Department of Natural Resources 101 S. Webster Madison, WI 53702 (608, 266-7718) (Continued)

Table 1 (Concluded)

State	Agency
Wyoming	Water Quality Division Department of Environmental Quality Herschler Building, 3rd Floor 122 West 25th Street Cheyenne, Wyoming 82002 (307, 777-7534)

Table 2
State Air Quality Agencies

<u>State</u>	<u>Agency</u>
Alabama	Air Pollution Control Commission State Department of Public Health State Office Bldg. 645 S. McDonough St. Montgomery, AL 36130
Alaska	Air Quality & Solid Waste Management Section Department of Environmental Conservation P.O. Box 0 Juneau, AK 99811-1800 (907, 465-2605)
Arizona	Bureau of Air Quality Control Department of Health Services 1740 W. Adams St. Phoenix, AZ 85007 (602, 271-5306)
Arkansas	Division of Air Pollution Control Department of Pollution Control and Ecology 8001 National Drive Little Rock, AR 72209 (501, 371-1701)
California	Air Resources Board 1102 Q St., P. O. Box 2815 Sacramento, CA 95812 (916, 322-2990) Colorado Air Pollution Control Division Department of Health 4210 E. 11th Ave. Denver, CO 80220 (303, 388-6111 EXT. 354)
Connecticut	Department of Environmental Protection Air Compliance Unit 165 Capitol Ave. Hartford, CT 06115 (203, 566-4030)

(Continued)

Table 2 (Continued)

State	Agency
Delaware	Air Resources Section Division of Environmental Control P. O. Box 1401 Dover, DE 19901 (302, 678-4791)
Florida	Bureau of Air Quality Management Department Environmental Regulation 2600 Blair Stone Road Twin Towers Office Building Tallahassee, FL 32301 (904, 488-4807)
Georgia	Environmental Protection Division Department of Natural Resources 205 Butler St., S.E. Floyd Towers East Atlanta, GA 30334 (404, 656-3530)
Hawaii	Department of Health P. O. Box 3378 Honolulu, HI 96801 (808, 548-2211)
Idaho	Department of Health and Welfare State House Boise, ID 83720 (208, 384-2903)
Illinois	Pollution Control Board 309 W. Washington St. Suite 300 Chicago, IL 60606 (312, 793-3620)
Indiana	Air Pollution Control Board State Board of Health 1330 W. Michigan St. Indianapolis, IN 46206 (317, 633-0619)

(Continued)

(Sheet 2 of 7)

Table 2 (Continued)

State	Agency
Iowa	Department of Environmental Quality Air Quality Commission 3920 Delaware, P. O. Box 3326 Des Moines, IA 50316 (515, 281-7025)
Kansas	Department of Health and Environment Division of Environment Bureau of Air Quality Topeka, KS 66620 (913, 862-9360)
Kentucky	Division of Air Pollution Control Fort Boone Plaza 18 Reilly Rd. Frankfort, KY 40601 (502, 564-3350)
Louisiana	Office of Environmental Affairs Air Quality Division P. O. Box 44095 Baton Rouge, LA 70804
Maine	Bureau of Air Quality Control Department of Environmental Protection State House Augusta, ME 04333
Maryland	Department of Health and Mental Hygiene Bureau of Air Quality 201 W. Preston Baltimore, MD 21201 (301, 383-2740)
Massachusetts	Division of Air Quality Control Department of Environmental Quality Engineering One Winter St. Boston, MA 02108 (617, 292-5630)
Michigan	Air Quality Division Department of Natural Resources Stevens T. Mason Bldg. P. O. Box 30028 Lansing, MI 48909 (517, 322-1330)

(Continued)

(Sheet 3 of 7)

Table 2 (Continued)

State	Agency
Minnesota	Pollution Control Agency Air Quality Division 520 Lafayette Road St. Paul, MN 55155 (612, 296-6300)
Mississippi	Department of Natural Resources Bureau of Pollution Control P. O. Box 10385 Jackson, MS 39209 (601, 354-2550)
Missouri	Air Conservation Commission Division of Environmental Quality Department of Natural Resources P. O. Box 1368 Jefferson City, MO 65102 (314, 751-3241)
Montana	Department of Health and Environmental Sciences Environmental Sciences Division Air Quality Bureau Cogswell Building Helena, MT 59620 (406, 449-3454)
Nebraska	Department of Environmental Control Air Pollution Control Division Box 94877 - State House Station Lincoln, NB 68509-4877 (402, 471-2186)
Nevada	Environmental Protection Services 201 S. Fall Street, Room 120 Carson City, NV 89710 (702, 885-4360)
New Hampshire	Department of Health and Welfare Air Resources Commission Health and Welfare Building Hazen Drive Concord, NH 03301 (603, 271-4582)

(Continued)

(Sheet 4 of 7)

Table 2 (Continued)

State	Agency
New Jersey	Department of Environmental Protection Bureau of Air Pollution Control P. O. Box CN 027 Trenton, NJ 08625 (609, 292-6704)
New Mexico	Environmental Improvement Board P. O. Box 968 - Runnels Building Santa Fe, NM 87504-0968 (505, 827-5271)
New York	Department of Environmental Conservation Division of Air Bureaus of Source Control 50 Wolf Road Albany, NY 12233 (518, 457-6390)
North Carolina	Department of Natural Resources and Community Development Environmental Management Division Air Quality Section P. O. Box 27687 Raleigh, NC 27611-7687 (919, 733-4740)
North Dakota	State Department of Health Environmental Engineering Division 1200 Missouri Ave. Bismarck, ND 58505 (701, 224-2371)
Ohio	Environmental Protection Agency 361 E. Broad St. P. O. Box 1049 Columbus, OH 43216 (614, 466-6116)
Oklahoma	Department of Health Air Quality Service 1000 Northeast 10th St. P. O. Box 53551 Oklahoma City, OK 73152 (405, 271-5600)

(Continued)

(Sheet 5 of 7)

Table 2 (Continued)

State	Agency
Oregon	Air Quality Control Division Department of Environmental Quality P. O. Box 1760 522 SW Fifth Portland, OR 97207 (503, 229-5395)
Pennsylvania	Bureau of Air Quality and Noise Control Department of Environmental Resources P. O. Box 2068, Fulton National Building Harrisburg, PA 17120 (717, 787-9702)
Rhode Island	Division of Air Pollution Resources Department of Environmental Management Cannon Building 75 Davis St. Providence, RI 02908 (401, 277-2234)
South Carolina	Department of Health and Environmental Control Pollution Control Authority 2600 Bull St. Columbia, SC 29201
South Dakota	Department of Water & Natural Resources Office of Air Quality & Solid Waste Joe Foss Building Pierre, SD 57501 (605, 224-3151)
Tennessee	Air Pollution Control Division 6th Floor - Terra Building 150 Ninth Avenue North Nashville, TN 37203
Texas	Air Control Board 6330 Hwy. 290 East Austin, TX 78723 (512, 451-5711)

(Continued)

(Sheet 6 of 7)

Table 2 (Concluded)

State	Agency
Utah	Department of Health Division of Environmental Health Bureau of Air Quality Air Conservation Committee 150 North West Temple P. O. Box 2500 Salt Lake City, UT 84110 (801, 533-6111)
Vermont	Agency of Environmental Conservation Environmental Engineering Division Air Pollution Control Section State Office Building Montpelier, VT 05602 (802, 828-3357)
Virginia	State Air Pollution Control Board Room 1106 Ninth Street Office Bldg. Richmond, VA 23219 (804, 786-4500)
Washington	Department of Ecology Air Resource Division Mail Stop PV-11 Olympia, WA 98504 (206, 753-0211)
West Virginia	Air Pollution Control Commission 1558 Washington St. East Charleston, WV 25311
Wisconsin	Bureau of Air Pollution Control and Solid Waste Disposal Department of Natural Resources Box 7921 Madison, WI 53707 (608, 266-0603)
Wyoming	Division of Air Quality Department of Environmental Quality 122 W. 25th St. Cheyenne, WY 82002 (307, 777-7391)

Table 3

State Agencies Responsible for RCRA

<u>State</u>	<u>Agency</u>
Alabama	Division of Public Water Supplies Alabama Department of Environmental Management 1751 Federal Dr. Montgomery, AL 36130 (205) 271-7730
Alaska	Air and Solid Waste Management Section Dept. of Environmental Conservation Division of Environmental Quality P.O. Box 0 Juneau, AK 99811 (907) 465-2666
American Samoa	American Samoa Government Department of Public Works Pago Pago, American Samoa 96799 (Commercial Call 633-4116)
	Mail Completed Forms To:
	USEPA Region IX Toxics and Waste Management Division 215 Fremont Street San Francisco, CA 94105
Arizona	Arizona Department of Health Services 2005 N. Central, Room 301 Phoenix, AZ 85005 (602) 257-0022
	Mail Completed Forms To:
	USEPA Region IX Toxics and Waste Management Division 215 Fremont Street San Francisco, CA 94105
Arkansas	Arkansas Department of Pollution Control Solid and Hazardous Materials 8001 National Drive P.O. Box 9583 Little Rock, AR 72219 (501) 562-7444

(Continued)

(Sheet 1 of 10)

Table 3 (Continued)

State	Agency
California	<p>California Department of Health Services Toxic Substances Control Division 714 P Street Sacramento, CA 95814 (916) 324-1807</p> <p>Mail Completed Forms To:</p> <p>USEPA Region IX Toxics and Waste Management Division 215 Fremont Street San Francisco, CA 94105</p>
Colorado	<p>Colorado Department of Health Waste Management Division 4210 E. 11th Ave. Denver, CO 80220 (303) 320-8333</p>
Connecticut	<p>Connecticut Department of Environmental Protection Hazardous Materials Management Unit State Office Building 165 Capitol Ave. Hartford, CT 06106 (203) 566-5712</p>
Delaware	<p>Delaware Department of Natural Resources and Environment Solid Waste Management Branch P. O. Box 1401 Dover, DE 19901 (302) 736-4781</p>
District of Columbia	<p>Department of Environmental Services Pesticides and Hazardous Materials Division 5000 Overlook Ave., S.W. Washington, DC 20032 (202) 767-8422</p>
Florida	<p>Solid Waste Section Florida Department of Environmental Regulation Twin Towers Office Bldg. Rm. 421 2600 Blair Stone Road Tallahassee, FL 32301 (904) 488-0300</p>

(Continued)

(Sheet 2 of 19)

Table 3 (Continued)

State	Agency
Georgia	Land Protection Branch Environmental Protection Division Georgia Department of Natural Resources 19 Martin Luther King Jr. Dr. S.W. Room 400 Atlanta, GA 30334 (404) 656-3214
Hawaii	Hawaii Department of Health Environmental Protection and Health Services Division Noise and Radiation Branch P. O. Box 3378 Honolulu, HI 96801 (808) 458-3075 Mail Completed Forms To: USEPA Region IX Toxics and Waste Management Division 215 Fremont Street San Francisco, CA 94105
Idaho	USEPA Region X Waste Management Branch MS 530 1200 Sixth Avenue Seattle, WA 98101 (206) 442-2777
Illinois	Illinois Environmental Protection Agency Division of Land Pollution Control 2200 Churchill Road Springfield, IL 62706 (217) 782-6761 Mail Completed Forms To: RCRA Activities USEPA Region V Waste Management Division P.O. Box A3587 Chicago, IL 60690

(Continued)

Table 3 (Continued)

State	Agency
Indiana	RCRA Activities USEPA Region V Waste Management Division P.O. Box A3587 Chicago, IL 60690 (312) 886-6148
Iowa	USEPA Region VII RCRA Branch 726 Minnesota Avenue Kansas City, KS 66101 (816) 374-6534
Kansas	Kansas Department of Health and Environment Bureau of Waste Management Forbes Field, Bldg. 321 Topeka, KS 66620-0110 (913) 862-9360
Kentucky	Division of Waste Management Kentucky Department for Environmental Protection Fort Boone Plaza, Building No. 2 18 Reilly Rd. Frankfort, KY 40601 (502) 564-6716
Louisiana	Louisiana Department of Environmental Quality Solid Waste Management Division P. O. Box 44307 Baton Rouge, LA 70804-4307 (504) 342-1227
Maine	Maine Department of Environmental Protection Bureau of Oil and Hazardous Materials Control Division of Licensing and Enforcement State House-Station 17 Augusta, ME 04333 (207) 289-2651
Maryland	Maryland Department of Health and Mental Hygiene Waste Management Administration 201 West Preston St., Baltimore, MD 21201 (301) 383-5740

(Continued)

Table 3 (Continued)

State	Agency
Massachusetts	Massachusetts Department of Environmental Quality Division of Solid and Hazardous Waste One Winter St. Boston, MA 02108 (617) 292-5851
Michigan	RCRA Activities USEPA Region V Waste Management Division P.O. Box A3587 Chicago, IL 60690 (312) 886-6148
Minnesota	Minnesota Pollution Control Agency Solid and Hazardous Waste Division 520 Lafayette Road St. Paul, MN 55155 (612) 297-1779
	Mail Completed Forms To:
	RCRA Activities USEPA Region V Waste Management Division P.O. Box A3587 Chicago, IL 60690
Mississippi	Division of Solid and Hazardous Waste Management Mississippi Department of Natural Resources P. O. Box 10385 Jackson, MS 39209 (601) 961-5078
Missouri	Missouri Department of Natural Resources Waste Management Program P. O. Box 1368 Jefferson City, MO 65102 (314) 751-3241
Montana	Montana Department of Health and Environmental Sciences Solid and Hazardous Waste Bureau Cogswell Building, Room B201 Helena, MT 59620 (406) 444-2821

(Continued)

Table 3 (Continued)

State	Agency
Nebraska	Nebraska Department of Environmental Control Hazardous Waste Management Section P.O. Box 94877 Lincoln, NE 68509 (402) 471-2186
Nevada	Nevada Department of Conservation and Natural Resources Division of Environmental Protection Capitol Complex 201 South Fall St., Room 221 Carson City, NV 89701 (702) 885-4670 Mail Completed Forms To: USEPA Region IX Toxics and Waste Management Division 215 Fremont Street San Francisco, CA 94105
New Hampshire	New Hampshire Department of Health and Welfare Office of Waste Management Health and Welfare Building Hazen Drive Concord, NH 03301 (603) 271-4608
New Jersey	New Jersey Department of Environmental Protection Division of Waste Management Hazardous Waste Advisory Program 32 E. Hanover Street P. O. Box CN028 Trenton, NJ 08625 (609) 292-8341 Mail Completed Forms To: USEPA Region II Air and Waste Management Division 26 Federal Plaza New York, NY 10278

(Continued)

(Sheet 6 of 10)

Table 3 (Continued)

State	Agency
New Mexico	Hazardous Waste Section New Mexico Environmental Improvement Division P. O. Box 968 Santa Fe, NM 87504-0968 (505) 984-0020 Ext. 340
New York	New York Department of Environmental Conservation Division of Solid and Hazardous Waste Manifest Section 50 Wolf Rd., Room 209 Albany, NY 12233-0001 (518) 457-0530 Mail Completed Forms To: USEPA Region II Air and Waste Management Division 26 Federal Plaza New York, NY 10278
North Carolina	Solid and Hazardous Waste Management Branch Environmental Health Section Department of Human Resources Division of Health Services 306 North Wilmington Street P. O. Box 2091 Raleigh, NC 27602-2091 (919) 733-2178
North Dakota	North Dakota Department of Health Division of Hazardous Waste Management and Special Studies 1200 Missouri Ave., Room 302 Bismarck, ND 58501 (701) 224-2366
Ohio	RCRA Activities USEPA Region V Waste Management Division P.O. Box A3587 Chicago, IL 60690 (312) 886-6148

(Continued)

(Sheet 7 of 10)

Table 3 (Continued)

State	Agency
Oklahoma	Department of Health Environmental Health Services Waste Management Service Industrial Waste Division P.O. Box 53551 Oklahoma City, OK 73152 (405) 271-5338
Oregon	USEPA, Region X Waste Management Branch MS 530 1200 Sixth Avenue Seattle, WA 98101 (206) 442-2777 State Requirements: Oregon Department of Environmental Quality Hazardous and Solid Waste Management Division 522 S.W. 5th Avenue P.O. Box 1760 Portland, OR 97207 (503) 229-5913
Pennsylvania	USEPA Region III Waste Management Branch MS 3HW 34 841 Chestnut Street Philadelphia, PA 19107 (215) 597-7354
Rhode Island	Rhode Island Department of Environmental Management Division of Air and Hazardous Materials 204 Cannon Bldg. 75 Davis Street Providence, RI 02908 (401) 277-2797
South Carolina	Bureau of Solid and Hazardous Waste Management South Carolina Department of Health and Environmental Control 2600 Bull St. Columbia, SC 29201 (803) 758-5681

(Continued)

(Sheet 8 of 10)

Table 3 (Continued)

State	Agency
South Dakota	South Dakota Department of Water and Natural Resources Office of Air Quality and Solid Waste Joe Foss Building Pierre, SD 57501-3181 (605) 773-3329
Tennessee	Division of Solid Waste Management Tennessee Department of Health and Environment Cordell Hull Building Nashville, TN 37219-5402 (615) 741-3424, 2577, 3959
	Texas Department of Health Bureau of Solid Waste Management 1100 West 49th Street, T-602 Austin, TX 78756 (512) 458-7271
Utah	Utah Department of Health Bureau of Solid and Hazardous Waste State Office Building, Room 4231 P. O. Box 45500 Salt Lake City, UT 84110-2500 (801) 533-4145
Vermont	Vermont Agency of Environmental Conservation Air and Solid Waste Programs State Office Building 79 River Street Montpelier, VT 05602 (802) 828-3395
Virginia	Virginia Department of Health Division of Solid and Hazardous Waste Management Madison Building 109 Governor Street Richmond, VA 23219 (804) 786-5271
Washington	Department of Ecology Hazardous Waste Section Mail Stop OV-11 Olympia, WA 98504 (206) 459-6000

(Continued)

(Sheet 9 of 10)

Table 3 (Concluded)

State	Agency
West Virginia	West Virginia Department of Natural Resources Division of Water Resources 1800 Washington St. East Charleston, WV 25305 (304) 384-5935
Wisconsin	Wisconsin Department of Natural Resources Bureau of Solid Waste Management 4610 University Avenue P.O. Box 7921 Madison, WI 53707 (608) 266-2111 Mail Completed Forms to: RCRA Activities USEPA Region V Waste Management Division P.O. Box A3587 Chicago, IL 60690
Wyoming	Division of Solid Waste Management Environmental Quality Council Department of Environmental Quality 122 W. 25th Street, Herschler Building Cheyenne, WY 82002 (307) 777-7752

Table 4

National Marine Sanctuaries

Key Largo, Florida

Looe Key, Florida

U.S.S. Monitor

Gray's Reef, Georgia

Channel Islands, California

Point Reyes-Farallon Island, California

Fagatele Bay, American Samoa

Table 5
State Pesticide-Regulation Agencies

<u>State</u>	<u>Agency</u>
Alabama	Department of Agriculture and Industries Beard Building P. O. Box 3336 Montgomery, AL 26193 (205, 832-6693)
Alaska	Pesticides Program Supervisor Department of Environmental Conservation Pouch O Juneau, AK 99801 (907, 465-2605)
Arizona	Board of Pesticide Control 1688 W. Adams Phoenix, AZ 85007 (602, 271-4621)
Arkansas	Plant Board Department of Commerce P. O. Box 1069 Little Rock, AR 72203
California	Department of Food and Agriculture Division of Pest Management 1200 N Street, Room 104 Sacramento, CA 95814 (916, 445-9280)
Colorado	Department of Agriculture Division of Plant Industry 406 State Services Bldg. 1525 Sherman St., Denver, CO 80203 (303, 892-2811)
Connecticut	Department of Environmental Protection State Office Building 165 Capitol Avenue Hartford, CT 06115 (203, 566-5148)

(Continued)

Table 5 (Continued)

State	Agency
Delaware	Department of Agriculture Agriculture Building Drawer D Dover, DE 19903 (302, 678-4811)
Florida	Department of Agriculture and Consumer Services Pesticides Section Mayo Building Tallahassee, FL 32301 (904, 488-3022)
Georgia	Department of Agriculture 19 Hunter, S.W. 304 Agriculture Building Capitol Square Atlanta, GA 30334 (404, 656-3600)
Hawaii	Pesticides Branch Department of Agriculture Division of Plant Industry 1428 South King Street Honolulu, HI 96814
Idaho	Department of Agriculture Division of Plant Industries Pesticide Section P. O. Box 790 Boise, ID 83701 (208, 384-3240)
Illinois	Department of Agriculture Emmerson Building State Fairgrounds P. O. Box 429 Springfield, IL 62706 (217, 782-2172)
Indiana	State Chemist Department of Biochemistry Agricultural Experiment Station Purdue University Lafayette, IN 47907 (317, 749-2391)

(Continued)

(Sheet 2 of 7)

Table 5 (Continued)

State	Agency
Iowa	Department of Agriculture Henry A. Wallace Bldg. Des Moines, IA 50319 (515, 281-5321)
Kansas	Kansas State Board of Agriculture 109 S.W. Ninth St. Topeka, KS 66612-1281
Kentucky	Department of Agriculture Division of Pesticides Pinehill Plaza 1121 Louisville Road Frankfort, KY 40601 (502, 564-4696)
Louisiana	Department of Agriculture Pesticide and Environmental Programs P. O. Box 44153, Capitol Station Baton Rouge, LA 70804-4153 (504, 389-5267)
Maine	State Board of Pesticide Control Department of Agriculture State Office Building Augusta, ME 04333 (207, 289-3871)
Maryland	Department of Agriculture Pesticide Applicators Law Section 50 Harry S. Truman Parkway Annapolis, MD 21401 (301, 267-1161)
Massachusetts	Pesticide Board Department of Food and Agriculture 21st Floor 100 Cambridge Street Boston, MA 02202 (617, 727-3002)
Michigan	Plant Industry Division Department of Agriculture P. O. Box 30017 Lansing, MI 48909 (517, 373-1050)

(Continued)

(Sheet 3 of 7)

Table 5 (Continued)

State	Agency
Minnesota	Department of Agriculture State Office Building, Room 530 St. Paul, MN 55155 (612, 296-2856)
Mississippi	Department of Agriculture and Commerce Division of Plant Industry P. O. Box 5207 Mississippi State, MS 39762
Missouri	Department of Agriculture Plant Industries Division P. O. Box 630 Jefferson City, MO 65101 (314, 751-4211)
Montana	Department of Agriculture Environmental Management Livestock Building Capitol Station 6th and Roberts Helena, MT 59620-0205 (406, 449-3144)
Nebraska	Department of Agriculture Bureau of Plant Industry 301 Centennial Mall South P. O. Box 94756 Lincoln, NE 68509 (402, 471-2341)
Nevada	Department of Agriculture P. O. Box 11100 350 Capitol Hill Avenue Reno, NV 89510 (702, 784-6401)
New Hampshire	Department of Agriculture Pesticides Control Division 105 Loudon Rd Prescott Park Bldg 1 Concord, NH 03301 (603, 271-3551)

(Continued)

Table 5 (Continued)

State	Agency
New Jersey	Department of Environmental Protection Office of Pesticide Control P. O. Box 2807 Trenton, NJ 08625 (609, 292-2885)
New Mexico	Department of Agriculture Division of Pesticide Management New Mexico State University P. O. Box 3 AQ Law Cruces, New Mexico 88003 (505, 646-2133)
New York	Department of Environmental Conservation Pesticide Room #404 50 Wolf Rd, Albany, NY 12233 (518, 457-7482)
North Carolina	Department of Agriculture Food and Drug Protection Division Pesticide Section P. O. Box 27647 Raleigh, NC 27611 (919, 733-3556)
North Dakota	Pesticide Control Board Department of Agriculture State Capitol Building, Bismarck, ND 58501 (701, 224-2231)
Ohio	Division of Plant Industry Department of Agriculture Reynoldsburg, OH 43068 (614, 466-2732)
Oklahoma	Department of Agriculture Plant Industry Division 122 State Capitol Oklahoma City, OK 73105-4882 (405, 521-3871)

(Continued)

Table 5 (Continued)

State	Agency
Oregon	Department of Agriculture Agriculture Building 635 Capitol N.E. Salem, OR 97310 (503, 378-3773)
Pennsylvania	Bureau of Plant Industry Department of Agriculture 2301 N. Cameron Harrisburg, PA 17120 (717, 787-4737)
Rhode Island	Department of Environmental Management Division of Agriculture and Marketing 22 Hayes St. Providence, RI 02908 (401, 277-2234)
South Carolina	Plant Pest Regulatory Services 212 Barre Hall Clemson University Clemson, SC 29631
South Dakota	Division of Agricultural Regulations and Inspection Department of Agriculture Anderson Building 445 East Capitol Pierre, SD (605, 773-3724)
Tennessee	Division of Food and Drugs Department of Agriculture P. O. Box 40627, Melrose Station Nashville, TN 37204 (615, 832-6155)
Texas	Department of Agriculture P. O. Box 12847 Capitol Station Austin, TX 78711 (512, 475-6346)

(Continued)

Table 5 (Concluded)

State	Agency
Utah	Pesticide Control Committee Department of Agriculture 350 North Redwood Rd Salt Lake City, UT 84116 (801, 533-5421)
Vermont	Plant Industry Division Department of Agriculture 116 State Street State Office Bldg. Montpelier, VT 05602 (802, 828-2431)
Virginia	Department of Agriculture and Consumer Services Division of Product and Industry Regulation P. O. Box 1165 Richmond, VA 23209 (804, 786-3501)
Washington	Washington Department of Agriculture 406 General Administration Building, AX-41 Olympia, WA 98504 (206, 753-5063)
West Virginia	Department of Agriculture Consumer Protection Division State Capitol Bldg. Charleston, WV 25305 (304, 348-2201)
Wisconsin	Pesticide Use and Control Plant Industry Division Department of Agriculture 801 W. Badger Road P. O. Box 8911 Madison, WI 53708 (608, 266-1721)
Wyoming	Department of Agriculture 2219 Carey Avenue Cheyenne, WY 82002 (307, 777-7321)

Table 6
Rivers in the Wild and Scenic River System

<u>State</u>	<u>Forest Service</u>	<u>National Park Service</u>
Alaska		Alagnak Alatna Aniakchak Charley Chilikadrotna John Kobuk Mulchatna Noatak Koyukuk Salmon Tinayguk Tlikakila Andreafsky Ivishak Nowitna Selawik Sheenjek Wind Alagnak Beaver Creek Birch Creek Delta Fortymile Gulkana Unakakleet
California	American Feather	Klammath Trinity Eel Smith
Georgia	Chattooga	
Idaho	Clearwater, Middle Fork Salmon, Middle Fork Rapid River Snake Saint Joe Salmon	
Michigan	Pere Marquette	

(Continued)

Table 6 (Concluded)

<u>State</u>	<u>Forest Service</u>	<u>National Park Service</u>
Minnesota		Saint Croix Lower Saint Croix
Missouri	Eleventh Point	
Montana	Flathead	Flathead Missouri
Nebraska		Missouri River
New Mexico		Rio Grande
New York		Upper Delaware River
North Carolina	Chattooga	
Oregon	Rogue Snake	Rogue
Pennsylvania		Upper Delaware
South Carolina	Chattooga	
South Dakota		Missouri
Tennessee		Obed
Texas		Rio Grande
Washington	Skagit	
Wisconsin		Lower Saint Croix Saint Croix Wolf

APPENDIX A: REGIONAL ENVIRONMENTAL PROTECTION AGENCY OFFICES

Region I

US Environmental Protection Agency - Region I
Office of Public Awareness
Room #2203
John F. Kennedy Federal Building
Boston, MA 02203
(617) 223-7223

Region I includes:

Connecticut	New Hampshire
Maine	Rhode Island
Massachusetts	Vermont

Region II

US Environmental Protection Agency - Region II
Public Affairs - USEPA
26 Federal Plaza
New York, NY 10007
(518) 567-3720 (NY State Dpt. of Environmental Conservation)
(212) 264-2515 (Region II USEPA)

Region II includes:

New York	Puerto Rico
New Jersey	Virgin Islands

Region III

US Environmental Protection Agency - Region III
Office of Congressional and Public Affairs
Curtis Building
6th and Walnut Streets
Philadelphia, PA 19106
(215) 597-9826

Region III includes:

Delaware	Pennsylvania
District of Columbia	West Virginia
Maryland	Virginia

Region IV

US Environmental Protection Agency - Region IV (Southeastern)
345 Courtland Street, NE
Atlanta, GA 30308
(404) 881-3004.

Region IV includes:

Alabama	North Carolina
Georgia	South Carolina
Florida	Tennessee
Mississippi	Kentucky

Region V

US Environmental Protection Agency - Region V (Midwest)
230 South Dearborn Street
Chicago, IL 60604
(312) 353-2072.

Region V includes:

Minnesota	Indiana
Wisconsin	Illinois
Michigan	Ohio

Region VI

US Environmental Protection Agency - Region VI
Information Development Branch
1201 Elm Street
Dallas, TX 75270
(214) 767-7341

Region VI includes:

New Mexico	Arkansas
Texas	Louisiana
Oklahoma	

Region VII

US Environmental Protection Agency - Region VII
Public Involvement Branch
726 Minnesota Ave.
Kansas City, KS 66101
(913) 236-2803

Region VII includes:

Iowa	Nebraska
Kansas	Missouri

Region VIII

US Environmental Protection Agency - Region VIII
Rocky Mountain Prairie Region
1860 Lincoln Street
Suite #900
Denver, CO 80203
(303) 837-4904

Region VIII includes:

Colorado	South Dakota
Montana	Utah
North Dakota	Wyoming

Region IX

US Environmental Protection Agency - Region IX
215 Fremont Street
San Francisco, CA 94105
(415) 556-6694

Region IX includes:

California	American Samoa
Nevada	Guam
Arizona	Wake Island
Hawaii	Trust Territories of the Pacific

Region X

US Environmental Protection Agency - Region X
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-1203

Region X includes:

Alaska	Oregon
Idaho	Washington

APPENDIX B: NOTATION

BLM	Bureau of Land Management, Department of the Interior
CAA	Clean Air Act
CE	Corps of Engineers
CELDS	Computer-Aided Environmental Legislative Data System
CERL	Construction Engineering Research Laboratory
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ER	Engineer Regulation
ESA	Endangered Species Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FONSI	Finding of No Significant Impact
FS	Forest Service
FWCA	Fish and Wildlife Coordination Act
FWS	Fish and Wildlife Service
MMPA	Marine Mammal Protection Act
MPRSA	Marine Protection, Research, and Sanctuaries Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service, Department of Commerce
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
OCE	Office, Chief of Engineers
O&M	Operations and Maintenance
PL	Public Law
PSD	Prevention of Significant Deterioration
REMR	Repair, Evaluation, Maintenance, and Rehabilitation
RCRA	Resource Conservation and Recovery Act

SCS	Soil Conservation Service
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
USC	United States Code
WRC	Water Resources Council
WSRA	Wild and Scenic Rivers Act